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CONRAIL-AMTRAK P72

RCMA

NEWSLETTER

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APRIL 1984

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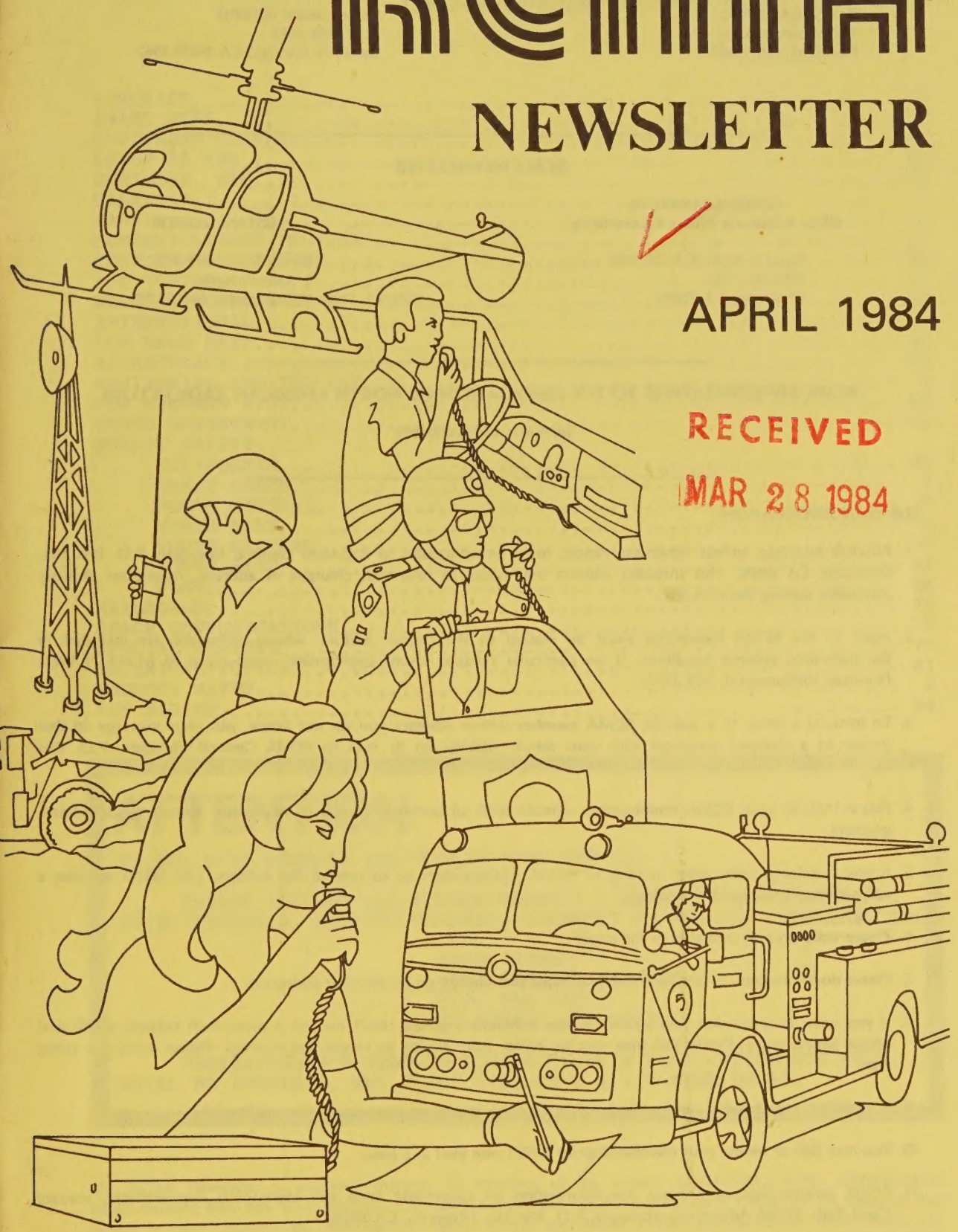

FIRST NATIONAL AND INTERNATIONAL ORGANIZATION
OF MONITOR RADIO LISTENERS

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RCMA NEWSLETTER

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Williamsport, MD 21795

RCMA REPRESENTATIVES TO THE ASSOCIATION OF NORTH AMERICAN RADIO CLUBS

Jerry Short (CA-OR-002)

FOR YOUR INFORMATION:

1. All club business, unless otherwise noted, must be addressed to R.C.M.A. General Manager, P.O. Box 542, Silverado, CA 92676. This includes matters that relate to renewals, changes of address, newsletter delivery problems, joining the club, etc.

2. Input to the RCMA Newsletter must be mailed to the proper editors, whose addresses are included in the individual column headlines. If no particular column seems appropriate, send input to RCMA, 1 West Potomac, Williamsport, MD 21795.

3. To forward a letter to a specific RCMA member whose address you do not know, put your message to that person in a stamped envelope with your return address on it; mail to RCMA General Manager, P.O. Box 542, Silverado, CA 92676.

4. Please include your RCMA membership number with all correspondence to newsletter editors or club headquarters.

5. If you require a reply when writing to RCMA headquarters or to one of the editors, you MUST enclose a self-addressed, stamped envelope.

6. Please write on only one side of the paper.

7. Please don't combine in one letter several items that should go to different addresses.

8. If you want to type what you submit to the newsletter, please don't exceed a seven-inch column width and please single space. Doing this may save an editor from having to retype the material. Please don't use script type.

9. Your RCMA membership number and expiration date appear on your newsletter mailing label.

10. You may join or renew your membership for ONLY one year at a time.

11. RCMA accepts paid advertising. For information on advertising rates and mechanical requirements, contact Carol Ruth, RCMA Advertising Manager, P.O. Box 342, Silverado, CA 92676.

RCMA NEWSLETTER
Issue 98 April 1984
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ATTENTION ~

TO ALL RCMA MEMBERS AND PROSPECTIVE MEMBERS -

PLEASE ADDRESS ALL CORRESPONDENCE (INQUIRIES ABOUT MEMBERSHIP, RENEWALS, ADDRESS CHANGES, DELIVERY OR RENEWAL PROBLEMS) TO:

CAROL RUTH
RCMA GENERAL MANAGER
P.O. BOX 542
SILVERADO, CA 92676

CORRESPONDENCE SENT TO RCMA'S ANAHEIM POST OFFICE BOX WILL STILL BE ANSWERED, BUT THERE WILL BE A 4 - 6 WEEK DELAY.

The RCMA Newsletter is published monthly by members of the RADIO COMMUNICATIONS MONITORING ASSOCIATION, P.O. Box 4563, Anaheim, CA 92803. Subscription rate/membership fee is $16.50 for U.S. residents. For persons in other countries, the following rates apply: Canada and Mexico—$18.50; Europe—$20.00, South Pacific and Asia—$21.50. These dues are payable in U.S. funds and are subject to change. Information contained herein is obtained primarily from members and does not necessarily present the position or reflect the opinion of RCMA as a whole. The RCMA does not necessarily recommend or endorse products or services advertised herein. The publication is copyrighted © Reproduction of any material in this newsletter is prohibited without prior written consent.

• • Calendar • •

Send notices of upcoming events for the Calendar section to:
John Clark, RCMA, P.O. Box 4653, Anaheim, CA 92803.
Please send notices well in advance of the Newsletter deadline.

Greater L.A. Area R.C.M.A. Eric Christensen CALA045 Presiding

NOTE: Starting in February 1984 meetings will be held on the fourth Friday of the month.

March 23 FRIDAY Meeting at Mercury Savings and Loan, Valley View and Lincoln, Buena Park, Ca 8:00PM. 2nd Floor. Elevator in back.

A shortwave session. Bring your shortwave rig for comparisons, and selected frequencies for sharing. We are moving this session due to cancellation of the tour of Orange County Communications Center. They have undergone a management change.

April 25 FRIDAY Meeting at Mercury Savings and Loan, Valley View and Lincoln, Buena Park, Ca 8:00PM. 2nd Floor. Elevator in back.

General Sharing session

May 25 FRIDAY Tour Los Angeles County Sheriff Radio Center S.R.C. 1277 N Eastern Avenue, East Los Angeles. 8:00 P.M.

This tour should be most interesting for it will include the new improved facilities LA County Sheriff has obtained since our last tour in 1979.

June 22 FRIDAY Meeting at Mercury Savings and Loan, Valley View and Lincoln, Buena Park, Ca 8:00PM. 2nd Floor. Elevator in back.

Discussion and demonstration of computerized frequency lists. Problems with creation, updating, correcting and selection by various criteria will be covered.

R.C.M.A. Chicago

Contact Edward Robert Sirovy IL-004 312 969 2856
311 S. Williams Street, Westmont, Il 60559

Meetings: NANCINI'S Resturant 5555 St Charles Road, Berkeley, Il
two blocks east of St Charles Road exit from Eisenhouer Expressway Extention I-290 (phone 312 544 7277)

Saturday	April	14, 1984	1:00 PM
Saturday	June	9, 1984	1:00 PM
Saturday	August	4, 1984	1:00 PM
Sunday	August	19, 1984	Picnic/Field Exercise *
Saturday	September	22, 1984	1:00 PM
Saturday	November	10, 1984	1:00 PM

*Write for time, map, and details of this fun day

Visitors are welcome but please confirm the date in advance.

A SASE on file assures notification of tours and other item which may be scheduled on short notice.

R.C.M.A. Connecticut Chapter

Contact Bill Moore CT 038 203-223-0840
950 Farmington Ave, New Britain, CT 06051

Calendar continued

All Ohio Scanner Club
David B. Marshall, OH-146, President
50 Villa Road, Springfield, OH 45503

Austin Area Radio Listeners Meeting
Contact Bob Shrader (512) 926-9516

R.C.M.A. Philadelphia Gerald M. Schoaf, Floyd Schoenberg, C. Willard Load
PA-036 PA-076 PA-164
P.O. Box 213, Upper Derby, PA 19082 (215) 356-1982

Meeting the first Monday of the month, 7:30 PM at

Saint James Church Next to "The Grange"
Corner of Myrtle Ave & Warwick Road
Haverford, PA 19083

Talk In On: CB Channel 9 GMRS 467/462.675 Hams 147.66/.06

Southern New England Scanners Club

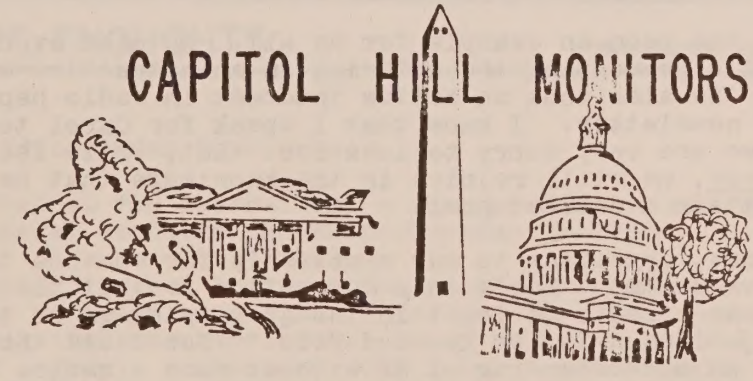
Contact Robert Murphy SNEC President 401-353-0208
P.O. Box 1591, Pawtucket, RI 02862

R.C.M.A. Minneapolis-St. Paul Area

Contact: Chuck Steier MN-008 (612) 927-9253
4820 Hwy 7, Minneapolis, MN 55416

A SASE on file assures notification of chapter activities
(tours, gatherings, etc) non members are welcome to attend.

ANNOUNCING THE FORMATION OF



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20912

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Reisterstown, MD
21136

For more information, write to Alan Henney at the above address.

NEED BACK ISSUES OF THE RCMA NEWSLETTER?

Lots (Months/Year)	No. of Issues	Price
Sept 75 - June/July 76 (No Oct or Nov published)	7	$2.00
August - Dec 76 (No Oct published)	4	$3.00
Jan - June 77	6	$4.00
July - Dec 77	6	$4.00
Jan - June 78	6	$5.00
July - Dec 78	6	$5.00
Jan - June 79	6	$6.00
July - Dec 79	6	$6.00

1980-83 issues are available at $1.50 per copy.

Order Total	Include This Amount of Postage
$ 1.50 - $ 5	$1
$ 5.50 - $10	$2
$10.50 - $15	$3
$15.50 - $25	$4
$25.50 - $35	$5
Over $35	$6

Send your request & check/ M.O. (payable to RCMA) to Secretary Bill Ell, 2831 Hermanos St., Pasadena, CA 91107

THOUGHT waves

Ginny Slick, RCMA Assistant Editor, 1 West Potomic, Williamsport, MD 21795

I have received a letter from Bob Horvitz stating that his last 'Below 30 MHz" will be the one in our May issue. Bob has an opportunity to see one of his **lifelong** dreams become a reality; a publisher wants to bring out a book of his drawings. Bob will have only a few months to write the texts for each drawing, so he needs to devote all of his time to the project.

Bob's column has been an example for us all. He used every inch of space while presenting the material in an attractive and interesting way. He also took an active interest in radio happenings outside the newsletter. I know that I speak for Carol too, when I say that we are very sorry to lose Bob. But, while feeling sorry for ourselves, we still rejoice in the knowledge that he has this chance to attain a desired goal.

I am, therefore, appealing to our membership for someone to edit the Shortwave Column. Bob's only suggestion is that the new editor "should have a radio at least in the quality-class of the Drake R7, NRD-515, ICON R-70, or Kenwood 2000." Bob feels that one can't really get an understanding of HF without such a radio. I'd like to add my own qualifications of typing ability and desire to be responsive to our membership. If you'd like to edit this column and feel that you have the qualifications, type a letter telling me about yourself. Send it to: Ginny Slick, 1 West Potomac Street, Williamsport, MD, 21795. I will do my best to find us an editor equal to the task.

Carol sent me an idea for another 'when available' type column. This column would center around product reviews. It would include related computer equipment. The column wouldn't appear each month; just when the editor had material. It would be necessary for the editor to have familiarity with the new product to evaluate it intelligently. Perhaps one of our members who owns a radio shop, and so has access to the newest products might consider this a column he'd enjoy editing. If this appeals to someone; follow the above instructions and send me a letter.

I am always open to ideas for columns or Special Features. There are many one-of-a-kind happenings that could be written up and used as a Special Feature. While you may not be able to contribute to the newsletter as a full-time editor, you might have knowledge of something that would interest our membership. This month, for example, I received a letter from a gentleman who'd like to do a one-time article on scanning in remote areas. He thinks that many people who live far from big cities don't realize how much there is to hear--consequently, they don't buy scanners, and miss out on some good listening. I think this is a fine idea for an article. Maybe you have such an article simmering in your head. If so, organize your thoughts, work up an introductory paragraph on your idea so that I can judge its possibilities, and

WRITE SOON,

Ginny

LAST MINUTE NOTE -

Do you monitor Public Safety frequencies? Do you live in Iowa, Kansas, Missouri, Nebraska, North Dakota, South Dakota, or Minnesota? Want to become more involved in your newsletter?

RCMA NEEDS A PUBLIC SAFETY - NORTH CENTRAL EDITOR!

Along with an editor for this column, the newsletter needs contributing members from this area!! Incumbent editor Michael Scheel has resigned due to lack of member input. We'd like to thank Michael for his time and effort, and as well, to draw attention to the fact that columns depend on contributions from you.

If you are interested in becoming the Public Safety - North Central Editor, write to Ginny Slick, editor of this column.

Carol Ruth
RCMA Managing Editor

YOUR THOUGHTS

1 West Potomac, Williamsport, MD 21795

To The Editor RCMA Newsletter

Let's hear it FOR Bearcat for a change. Here is my experience with Bearcat Scanners and their Customer Service.

I have a BC210 that has been in daily operation since April 1979. My BC250 purchased Mar 1979 also saw daily operation until Nov 1983 when the transformser worked loose and shorted a couple components. The local Bearcat Dealer indicated it was possible to send the unit to Bearcat and for the flat fee of $35 they would repair and update. A card received from them let me know my BC250 had been received and that I could expect return in 10-15 working days. It was delivered to me in 10 working days. The billing indicated replacement of two transistors and an integrated circuit at No Charge.

I certainly have no complaints and bet there many others out there just as satisfied with Bearcat as I we just don't make so much noise. Maybe we should.

A. F. SCHONEFED CASD013
10791 Cam. Bravura
San Diego, CA 92108

A F Schonefeld

JOEL LICHTENWALNER
RCMA CA-OR-265
the PUFFER BELLY
P.O. Box 6515
Anaheim, Ca. 92806
(714) 999-1477

Dear Ginny,

I appreciate the public spirit with which Gary Brown (OH-90) submitted his letter and the article he enclosed. If you remember, this was the article requesting that people help the Census Bureau bring about house and street numbering in rural areas. This would supposedly help in emergencies. One of the reasons that many, if not all, of us are interested in Radio Monitoring is that we desire to help others.

Unfortunately, when the government offers you a piece of cake, it is wise to look under the icing before taking it at its face value.

In the first place, if the hazards that the Census Bureau wants to do away with were all that common, they wouldn't have to ask the people to give them examples of the hazards. If they were responding to a need of the people, some common request for help, they would not need this kind of data. This appears instead, to be something that the bureau wants to impose on rural communities for the benefit and convience of the bureau. In order to run this past the people, they must convince them that it is for their good. So, they are now out looking for anecdotes to make their desires sound public spirited.

I am sure that not having a uniform house numbering scheme in rural areas has on occassion caused hardship for some. However, the blame should not lie on lack of house numbering but on the lack of preparation on the part of the emergency services organization.

No aspect of the Constitution (which is still the supreme man made law of the land) authorizes a continual bureau of the census, much less their meddling in this sort of local rule. I don't know if the present Census Bureau personnel have any evil intent, but I can think of several uses for their proposed numbering scheme which could be used to our detriment.

Remember, the bureaucrats that work for the Census Bureau are very little different than the bureaucrats which decide that your sworn to tax return is a lie or those bureaucrats which decided that C.B. was ok as long as you didn't talk any further than 125 miles. It is a rare bureaucrat that puts the the Constitution or the welfare of the citizen above keeping or enhancing his job.

Sorry, that's the way it is. Anyone aiding the Census Bureau in this matter might just be working to his own detriment.

Sincerely,

Joel Lichtenwalner

Dear Ginny:

I have been a member of *RCMA* for about two and a half years now and find that the magazine as a whole is great reading. Even though I reside in the 'West' portion of the magazine, I find that all Public Safety reading is of interest. One never knows when they will travel to that part of the country and need those frequencies. Last summer my husband and I went to a car convention in Seattle and also toured the western part of Canada; the frequency listings came in handy.

The reason for this letter is that our *West* editor mentioned in his February article that he has gotten complaints that he is not doing a good job. I have to disagree whole-heartedly; he is doing a great job and he has been most helpful to me in explaining scanner listening techniques, etc. Our column is only as good as the input received. If readers/listeners do not give him information, it is rather difficult for him to travel to these states (we have a few in the *West*) and spend time scanning to get the info for the article. I know he has contacted members

living in those states/cities, but you can't make them contribute. As in any group or club, there are only a select few who "do all the work", and the rest enjoy sitting back and complain that their 'area' is not being written up.

I enjoy scanning and while I am at home, I use my scanners as one would a radio. I have been able to contribute to our Public Safety section by doing this listening and verifying. All one has to do is listen (which obviously they are now doing), verify the information received and send that info into George, our 'West' editor. It takes some time, but is is also gratifying to see what you've contributed in print.

You have an informative magazine and if some readers don't contribute, it can't be helped. Those that do, know that they are making the magazine go.

Thank you,

Joyce Madden

Joyce Madden (Mrs.)(CO 032)
8356 East Princeton Ave.
Denver, CO 80237

Hugh Stegman
11622 Exposition Blvd. #2
Los Angeles, CA 90064
January 30, 1984

Ginny Slick
"Your Thoughts"
1 W. Potomac
Williamsport, MD 21795

To the Editor:

Several members have written this column wondering if anyone has an omnidirectional antenna that will cover the wide frequency range of a scanner like the Regency MX 7000. I doubt it, but if one does not need a resonant antenna on VHF-low, everything else can be received on a discone similar to the ones already used by the military.

Properly designed discones cover a frequency range of ten to one, with reduced performance higher and lower, down to a "cutoff" frequency. A discone about two feet high would work well from the VHF aircraft band to 1.2 GHz. Larger, vestigial discones are now made by Grove and Hustler, but for a small antenna, one might as well make a real disk and a cone out of metal rods. This would be a good experiment for a home constructor who does metal working.

John (VA-078) wrote an interesting letter about using "hard" RF limiting in a scanner front end to reduce intermod. I wonder if harmonic distortion would cause problems in scanners. "Hot carrier" diodes work by clipping amplitude peaks, so presumably a very strong CB signal would produce images every 27 MHz clear up into UHF. A CB wouldn't pick these up, but a scanner sure would. My BC 250 receives the Voice of America's HF transmissions as it is.

Another approach being tried in "ham" receivers is called up-conversion. The IF is higher then the range being received, so high that spurious products fall outside it. I think Fanon-Courier has this in their legendary 25-512 MHz hand-held, if said unit ever reaches the market.

I agree with John that today's scanners are a good compromise for the consumer market. Far better radios could be designed, but they'd take up a whole car trunk and cost $5000.

Hugh Stegman

Hugh Stegman
(CA-LA-472)

Aircraft

Send private, commercial, firefighting and law enforcement aircraft frequencies of interest in the 108-136 MHz range and frequencies in other bands above 30 MHz associated with airports and aircraft plus questions, articles and tips related to aircraft monitoring to:

Darrel Charest, 1804 D Oak Creek Lane, Bedford, TX 76021

Here we are in the middle of the thunderstorm season, which often makes for some interesting listening especially if you are close enough to receive both sides of the conversation from the Air Route Traffic Control Center. Although not all thunderstorms are lethal, it is difficult if not impossible to distinguish those that are from those that are not. For this reason pilots make every effort to avoid all of them. In the Southern plains some of these storms will top out over 50,000 feet with only very few aircraft having the capability of topping these monsters. Yet even these storms pose few real problems because on board radar systems provide the means for detouring around them. It is the conversation between pilot and controller concerning the detours that sometimes provide the entertainment.

And speaking of entertainment, it has been a source of enjoyment for me to put this column together during the past year. Yet the time has come to make a full time commitment to retirement and visit the grandchildren (6) that are scattered around the western half of the U.S. And with this in mind, I've given up flying (at least the full time job) and I must do the same in so far as the RCMA Newsletter is concerned. I know I'm going to miss both activities. Yet I'm sure there are many others among our members who could do a great job on the Aviation Column and I hope they will volunteer to do so.

The frequency listings below are for Air Route Traffic Control Centers and some of their remote communications sites.

ATLANTA CENTER

Atlanta	135.0 128.0 125.9 135.75
Albermarle	133.15
Anniston	134.95
Athens	127.5 124.45
Birmingham	135.6 133.5
Black Jack Mountain	127.05
Chattanooga	134.8 133.6 132.05 121.2
Columbus	134.7 120.45
Crossville	135.15 132.675 128.65
Gadsen	133.8
Greensboro	132.75
Hampton	135.75 133.35 128.0 125.9 121.5
Hickory	134.55 132.975 125.15
Huntsville	132.45
Jonesville	135.35 129.75
Livingston (Tn)	124.75
London, (Ky)	127.3
Macon	135.1 133.1 123.95
Monroeville	118.55
Montgomery	135.05 132.85 126.4 120.55
Mount Airy	127.85
Mount Oglethorpe	121.35 118.9
Newport	132.8 127.55
Owing	133.7 128.2 127.15
Pine Level	134.6
Shelbyville	126.75
Tri-City	133.2 132.9 125.25
Uniontown	132.25

JACKSONVILLE CENTER

South Atlantic Control	135.05 134.85
Albany	127.2
Alma	135.975 133.3 132.3
Augusta	132.1 128.1
Brunswick	134.45 126.75
Charleston	133.625 127.95 134.25 132.65
Columbia	135.55 124.7
Crestview	134.15 120.2
Daytona Beach	134.0
Dothan	134.3
Florence	134.35 133.4
Gainesville	134.4
Jacksonville	135.25 134.85
Millen	132.5
Panama City	127.45
Pensacola	132.15
Perry Foley	127.8
Raleigh	135.2
Rocky Mount	133.25
St. Augustine	128.35 126.35 125.45 120.6
Savannah	134.45 120.85
Tallahassee	133.95 127.6 125.05
Valdosta	135.65 125.95

MIAMI CENTER

Arrival and Departure U.S.	135.5 134.95 134.35 133.8 132.7 132.25 132.15 128.75 128.5 128.25 127.2 127.0 126.4 125.7 125.6 120.8
Avon Park	133.15
Fort Myers	132.8 128.25
Grand Bahama Is.	134.2
Key West	132.7 132.2
Melbourne	133.65 132.15 128.65 124.1
Miami	135.9 133.55 132.4 128.75 127.0 134.95 127.7 124.7
Nassau	134.8 125.7
Orlando	127.55 134.5 132.05
Pahokee	133.55 132.45
Sarasota	133.9 132.35
Tampa	134.35 128.05
Vero Beach	135.7 132.25 127.85
West Palm Beach	133.4 127.2

Next month more ARTC Center frequencies will be added from the North-Central part of the country including Chicago, Denver, Kansas City and Minneapolis Centers.

During the past month this editor received a nice letter from Mr. N.P. Oliver III who publishes the Louisiana Frequency Exchange. Mr. Oliver has graciously offered use of any of the frequency listings in his publication, asking only for credit to his magazine. In the past Mr. Oliver has forwarded a number of complimentary copies and those members living in Louisiana and surrounding states should find this publication interesting. If so write to "Louisiana Frequency Exchange, Box 45913, Baton Rouge, La 70895."

In the interest of meeting my deadline for getting this column to the Editor, I'll ackowledge letters received during the past month during our following issue. Thanks again to those of you who wrote.

BELOW 30 MHZ

Robert Horvitz, editor

This column is for AM, SSB, RTTY, CW & FAX reception reports, explanatory notes, articles, news & questions related to HF utilities. Services covered in this column include civilian aeronautical, coastal/marine, government, military, weather, etc. – essentially everything except broadcasting, CB & amateur radio. Send to: Robert Horvitz, 54 East Manning St., Providence, RI 02906
If you need a reception report form, please enclose a SASE with your request.

On the Corporate Front

BR Communications intends to buy Sunair Electronics for stock valued at about $71 million, according to a clipping from the 6 Dec 83 Wall Street Journal, sent by Rockwell Townsend. The deal would unite two very interesting companies in the HF field. According to Standard & Poor's brief 'Business Summary', also sent by Townsend, "Sunair is the leading supplier of channelized HF/SSB airborne equipment designed principally for use in airplanes and helicopters. In recent years, the company has shifted emphasis in favor of more technologically advanced ground-based HF/SSB systems, which are sold mostly to foreign or domestic governmental agencies through a network of dealers in over 100 countries." BR Communications was founded in 1966 as Barry Research. According to their product brochure, they "pioneered development of the FM/CW Chirpsounder method for sounding of HF communication paths... Through 1972 BR Communications concentrated primarily on methods for improving the performance of HF Over-the-Horizon Radars (used for detection of aircraft, ballistic-missile launches and nuclear detonations) through improved frequency management. During the 1969-73 period BR-built oblique Chirpsounders were operated on more than 20 paths in the Eurasian hemisphere in support of OTH radars. Many BR Chirpsounders are still in service in this application as well as in scientific applications. In 1972 BR began working with the US Air Force, Tactical Air Command, as exclusive contractor in their HF communications improvement program. This work led to the development and production of the AN/TRQ-35(V) Tactical Frequency Management System..." Other BR products include the Chirpcomm Adapter, which can work a 38-character message onto the chirps emitted by the chirpsounder; and the RSS-4 HF Spectrum Monitor, which "measures and stores occupancy of /the/ entire HF spectrum each 11 seconds; remembers channel occupancy up to 30 minutes; occupancy displayed clearly and simply on bright, refreshed CRT display."

According to the Wall Street Journal, BR is buying Sunair "so it can build entire high frequency communications systems. 'We need to do vertical integration,' Mr Fenwick /BR's president/ said."

.....

Alot of Mail This Month

From Ian (ENG-003): "Re Geoff Halligey's QSX Query /Jan 84, p 20/. The ITU List of Coastal Stations explains this under the countries concerned. When 'C' is given, a listening watch is maintained on Common channels, i.e. ch 5 & 6 (4-16 MHz) and ch 3 & 4 (22 MHz). When 'G' is specified, the listening watch is on Group channels. Groups are assigned on a country basis. Group I includes France, UK & East Coast USA. Group II includes Gulf Coast USA & Canal Zone. Group III includes West Coast USA, Canada & Norway. Group IV includes West Germany & European part of USSR."

ITU Table of CW Calling Freqs for Ships

Group	ch#	4 MHz	6 MHz	8 MHz	12 MHz	16 MHz	ch#	22 MHz	ch#	25 MHz
I	1	4180.2	6270.3	8360.4	12540.6	16720.8				
	2	4180.6	6270.9	8361.2	12541.8	16722.4	1	22228	A	25071
	3	4181.0	6271.5	8362.0	12543.0	16724.0	2	22230		
	4	4181.4	6272.1	8362.8	12544.2	16725.6				
Common	5	4181.8	6272.7	8363.6	12545.4	16727.2	3	22232	C	25073
	6	4182.2	6273.3	8364.4	12546.6	16728.8	4	22234		
II	7	4182.6	6273.9	8365.2	12547.8	16730.4				
	8	4183.0	6274.5	8366.0	12549.0	16732.0	5	22236	A	25071
	9	4183.4	6275.1	8366.8	12550.2	16733.6	6	22238		
	10	4183.8	6275.7	8367.6	12551.4	16735.2				
III	11	4184.2	6276.3	8368.4	12552.6	16736.8				
	12	4184.6	6276.9	8369.2	12553.8	16738.4	7	22240	B	25075
	13	4185.0	6277.5	8370.0	12555.0	16740.0	8	22242		
	14	4185.4	6278.1	8370.8	12556.2	16741.2				

IV	15	4185.8	6278.7	8371.6	12557.4	16743.2			
	16	4186.2	6279.3	8372.4	12558.6	16744.8	9	22244	B 25075
	17	4186.6	6279.9	8373.2	12559.8	16746.4	10	22246	
	18	4187.0	6280.5	8374.0	12561.0	16748.0			
channel width:		0.4 kHz	0.6	0.8	1.2	1.6		2.0	2.0

Note: freqs given are channel centers, not carriers

Ian continues: "I have read Aileen Clayton's The Enemy Is Listening /review, Nov 83, p 12/ which is excellent, but vague about frequencies used. In addition I would strongly recommend Confound and Destroy by Martin Streetly (Macdonald & Jane's, London, 1979, ISBN 0-88254-560-4; in the USA, $17.95 from Hippocrene Books, 171 Madison Ave., New York, NY 10016). Streetly discusses his PhD research into World War II electronic counter- and counter-countermeasures tactics and equipment in very full detail, including callsign structures and frequency bands. GCI tactics, jamming, spoofing, surveillance & monitoring (which was more informative than any radar warning of raids) are also covered in this thick book. These techniques are still of interest as little has changed, only chips have replaced tubes/valves.

"Re Dick Dillman's query. A MINIMUF-3 program in BASIC was published by P H Levine, R B Rose and J N Martin in a conference publication on Antennas and Propagation. A 7-page copy could be requested by writing the authors directly, I imagine. Their addresses are c/o Megatek Corp., 3985 Sorrento Valley Blvd, San Diego, CA 92121 and Naval Oceans Systems Center, San Diego. My copy of their paper is too faint to reproduce. A scientific calculator with a large memory could do the trig functions better than the acrobatics necessary with BASIC. The program is claimed to be as good as the official ITSA programs - simply as these are only accurate to 3 - 5 MHz. I can't run BASIC on my computer so watch out for bugs, typos, etc.

"Now, to update your Aero lists:

VOLMETS - Aviation Weather Broadcasts

AFI - Brazzaville (continuous): 10057 (H = on the hour; H+x = x min. after the hr)

NAT - New York (H, H+30), Gander (H+20, H+50): 3485 6604 10051 13270

PAC - Anchorage (H+25, H+55), Auckland (H+20, H+50), Hong Kong (H+15, H+45), Honolulu (H, H+30), San Francisco (H+05, H+35), Tokyo (H+10, H+40): 6679 8828 13282 plus 2863 on request

SEA - Bangkok (H+10, H+40), Bombay (H+25, H+55), Calcutta (H+05, H+35), Karachi (H+15, H+45), Singapore (H+20, H+50), Sydney (H, H+30): 2965 6676 11387

NCA - Khabarovsk? (H+15, H+45), Novosibirsk (H+10, H+40), Tashkent (H+05, H+35), Vnukovo (H+25, H+55): 4663 10090 13279
In Russian: Novosibirsk (continuous): 6638 8990
Riga, Leningrad, Moscow, Kiev, Rostov: 3116 6617 8939 11279
Tbilisi, Aktyubinsk, Krasnodar, Alma Ata, Tashkent, Baku: 3407 6730 8819
Syktyvkar, Sverdlovsk, Yeniseysk, Kusumoch: 2869 6693 8888 11319
Sofia, Bulgaria: 11273 (until 1800z in summer)

Planned: CAR - 2950 5580 11315
SAM - 2881 5601 10087 13279
SEA (Beijing) - 3458 5673 8849 13285

All broadcasts listed are in English unless noted otherwise

Canadian Air Force - Lahr (H+16): 5960 (2000-0800z) 13231 (0800-2000z)
St Johns (H+40), Trenton (H+30), Edmonton (H+20), Vancouver?: 6693 6753 15035

Royal Air Force - West Drayton (24 hrs on/off): 4722 11200 (computer voice generation direct from RTTY messages) /Really?? Sounds like human read to me--H/

Ian continues: "Now, can I ask some questions? Does anyone know the dates of the ITU's planned conference on the Aero (OR) bands recommended by WARC-78? Does anyone have a current list of USAF aircraft tactical callsigns (Huff, Swing, etc.)? Does anyone know of more 'Z' codes in addition to those published by Gilfer and Klingenfuss? If so can they please send source details? Thanks."

Shards and Glimmers

We mourn the demise of the Auroral Ionospheric Mapper aboard the HILAT satellite, as that means no more of the spectacular pictures it produced. Sky & Telescope reported the failure in their December issue. Developed by the Johns Hopkins Applied Physics Laboratory, it apparently malfunctioned in mid-July. Nothing said about what went wrong or if it could be corrected.

From Ken Carpenter, KC4UG: "I thought you might like to let your readers know that there is a software and hardware package to read CW/RTTY with the little Timex/Sinclair computers. Since they are selling for as little as $29.95 I am sure that many of your readers have one. I am using one to send and receive CW/RTTY and really like it. if they are interested I will be happy to send all details to them." Address: PO Box 586, Vernon, AL 35592. Think I'll take you up on that offer myself, Ken...

One person responded when I asked if there was any interest in weatherfax out there. Ed Flynn (CA-SF-Ø17) sent the schedule for Navy station NAM, Norfolk, VA, as broadcast in facsimile by the station itself. Freqs given were: 8080 and 10865 (continuously); 3357 (0000-1200z); 16410 (1200-????); and 20015 (1800-???? - the missing times are due to the image of the text running off the edge of the recorder). GOES satellite pictures are transmitted at 0245, 0445, 0545, 0845, 1315, 1445, 1645, 1745 and 2045z.

Mariners Weather Log, published quarterly by NOAA, gives updated schedules for these fax stations serving the North Pacific:

NPM - Honolulu, HI (US Navy) broadcasts on 2122 (0600-1600z); 4855 (0000-2400z); 9396 (0000-2400z); 14826 (0000-2400z); and 21837 (1700-0630z). All broadcasts are LSB except 2122 (which, presumably, is USB). Daily schedules are aired at 0000 & 1200z. Address: Naval Western Oceanography Center, Box 113, Pearl Harbor, HI 96860.

NMC - Point Rayes, CA (US Coast Guard) broadcasts intermittently on 4344.1 8680.1 12728.1 and 17149.8. Satellite images are at 1722 and 2032z, schedule at 2002z. Address: National Weather Service Forecast Office, 660 Price Ave., Redwood City, CA 94063.

NOJ - Kodiak, AK (US Coast Guard) broadcasts on 4298 and 8459. Each schedule unit is about 10 minutes long and is sent at 0400-0450, 1000-1030, 1800-1830 and 2200-2250z. Address: National Weather Service Office, Box 37, Kodiak, AK 99619.

The Final Acts of the 1979 World Administrative Radio Conference were implemented as domestic law by the FCC, effective 21 Feb. The Final Rule, including the new domestic and international table of spectrum allocations and all the footnotes and US reservations, was published in the 19 Jan issue of the Federal Register, pp 2358-2446. Definitely worth having a copy for reference. Another thing worth getting - at the right price - is the entire WARC Treaty, the whole book of international regulations. After the treaty was signed, it was published in paperback by the Govt Printing Office. This was an interim edition, intended for fast and wide distribution. It was superceded by publication in hardback. I was able to get a copy of the paperback by writing my Senator (the Senate ratifies all treaties) a few months after the hardback came out. It's late to be mentioning this, but you might write your Senator and ask if any paperback copies of Message from the President of the United States Transmitting the Radio Regulations (Geneva, 1979) and a Final Protocol signed on Behalf of the United States at Geneva December 6, 1979, with Several Reservations, Treaty Document 97-21, are left. I got mine for free, and use it constantly. Especially valuable are the table of allocations (now available via the Federal Register) and the detailed rules of the Maritime Service. If your Senator can't find you a copy, try the Senate Document Room, S 325, United States Capitol, Washington, DC 20510. It's a helluvalot cheaper than buying it from the ITU.

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Response to John Lee Wilson's Review of the M-600A (Feb issue)

From Eugene D Krolak, Jr (MI-129): "John should be able to receive ASCII transmissions from a Chilean Observatory /Cerro Tololo/ about 20876 kHz 110/850 ASCII. I have monitored the observatory between 1200-2200z if propagation is good. Then the ARRL's station W1AW broadcasts a RTTY news bulletin at 0200, 0500, 2300, and Monday-Friday at 1600z, on 3625, 7095, 14095 and 28095 kHz. First they run 45/170 then they repeat it at 110/170 ASCII. I also have found that W1AW will sometimes run the bulletin with the SITOR code, FEC mode /SITOR = Simplex Teleprinting Over Radio, FEC = Forward Error Correction/. Last November I monitored OCK-25 from 1910-1915z running 110/850-R ASCII on 20606 kHz. It wasn't a good copy but it was there...

"John has the right idea in reducing the level control so only the 3rd thru 7th LEDs are lit on the tuning bar for CW copy. Yet I found that if I reduce the gain of my Yaesu FRG-7700's preamplifier by -10 to -40 dB at the attenuator control, and use a low AF gain setting, then set the level on the M-600A as above, this gives the greatest success with CW copy. This removes much of the hash noise that makes tuning difficult...

"John should be able to copy bit inversion on 13830, 10655 and 7790 kHz. These are FCC stations and they run 45/425...

"The SITOR codes can be monitored 24 hours a day. I pick these up when all other codes are uncopyable. I have found both ARQ /Automatic ReQuest for repetition/ and FEC modes in all of the Maritime Mobile HF bands. Try around 6260 ±15 kHz, 6500 ±10 kHz, 8700 ±10 kHz, 13080 ±20 kHz, 17200 ± 20 kHz - and these are not all the frequencies available. AP and UPI news, maritime weather and telex to ships at sea can be copied here. If propagation is good, Firestone and Harbel, Liberia can be copies on 15780 in SITOR/ARQ and at times FEC mode.

"I agree a tuning scope would be a nice addition to the M-600A, but I haven't had the

problems John has had with the LEDs. This is probably a personal preference, but I don't think an analog 'S' meter jumping around would be an improvement over the ten LED tuning bar..

"At least with my FRG-7700 I have found that the LSB/CW mode is too narrow in bandwidth for all the shifts. In LSB, 170 and 425 come through fine, but the 850 shift will lose the space. The simple solution for this is running the receiver in the USB mode. The USB mode on the FRG-7700 must be wider than the LSB since all the shifts come through fine..."

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In Print

Glenn Hauser's "World of Radio" program on WRNO (21 Jan) said that a history of Collins Radio is available for $10 + $2.75 shipping & handling (US domestic); + $7 (airmail to Central America);+ $11.80 (to Europe); +$16 (to the Far East). From the Spectrum Association, Attention Judy R Jordan, 105 - 161, 400 Collins Road NE, Cedar Rapids, Iowa 52498.

Geoff Halligey recommends Double-Edged Secrets: US Naval Intelligence Operations in the Pacific during World War II by W J Holmes, Naval Institute Press, Annapolis, MD, 1979 (ISBN 0-87021-162-5; Library of Congress Catalog Card 78-70779). Also, The Ultra Secret by F W Winterbotham, originally published in 1974 by Weidenfeld & Nicholson, London (ISBN 0-297-76832-8). "Winterbotham was one of the principals whose job it was actually to distribute the info and to introduce it to, e.g., Eisenhower's generals, and he tells of the results of the 'Ultra' intercepts on each campaign."

Charles Chenery recommends Most Secret War (British title) by Reginald Victor Jones; published in the US in 1978 by Coward, McCann & Geoghegan (New York), under the title The Wizard War: British Scientific Intelligence 1939-1945, price $12.95. "Jones was one of the UK's top scientists during WW2. Quite fascinating. I had a hard job to put the book down. The German ham radio magazine cq/DL recently reported that Dr Jones attended a reunion in West Germany with his old enemies."

The Spring 83 issue of the Canadian magazine North/Nord was devoted to communications in Canada's far north. "La radio de piste pour la toundra et la forêt" by Robert Boulay had this English summary attached: "HF radiocommunication was the first long distance voice transmission system used by northern natives. Although less reliable, less stable and with lower sound quality than other communication systems, its low cost makes it the number one communications tool in the north today. The Crees of Northern Quebec can rent the unit whenever a hunting or trapping expedition is organized. 'It is more reliable than smoke signals', says Jerry Sam of Clisasibi. The units are mainly used to save lives and for emergencies. But there are exceptions, such as when the scores of the final hockey game of the Val d'Or tournament are transmitted from hunting camp to hunting camp." Sorry that I can't read French as there seems to be interesting detail in the article. Looks like the system has 9 control stations and 184 portable units. The latter can be rented by hunters for $2/day, apparently. English translation is available from The Editor, North/Nord, Indian and Northern Affairs Canada, Ottawa K1A 0H4 (no price given).

By the way, Canada has devised an automated HF radiotelephone system that connects with the main telephone grid. It's called Radiotelephone with Automatic Channel Evaluation (RACE). As described by John Oetting in the Nov 83 issue of IEEE Communications Magazine: "The basic idea of the RACE system is to have a master station (similar to the CCS of cellular mobile systems) which provides access to the telephone network. The master station cycles through each of the assigned frequencies and transmits short digital messages that are used by the remote terminal to evaluate channel quality. At the beginning of a call, the remote terminal goes through a handshaking procedure with the master station to determine the best available channel and the call is transmitted on that channel. (In the case of a call between two remote units, a direct HF link between the two units is set up so that the master station is not involved beyond the handshaking stage.) An experimental system was developed by the Canadian Department of Communications in order to test the concept. The system consisted of two (non-mobile) remote stations and a master station. It used 8 frequencies covering the HF band from 3.2 - 20.5 MHz... During the three month test period (April, May and June of 1980), communication was possible on the 60 km link 99.9% of the time and on the 1000 km link 98.3% of the time." A report on the RACE system experiment can be had from the Dept of Communications as Report # 1338-E (Information Services, 300 Slater St, Ottawa K1A 0C8; no price given for this, either).

Rachel Weiss turned me on to a wonderful book, Whistlers and Related Ionospheric Phenomena by Robert A Helliwell (Stanford University Press, Stanford, Calif., 1965). From the introduction: "Among the many accidental discoveries of science are whistlers, which, with related phenomena, comprise a group of complex and fascinating natural events that can be heard on very low frequencies with the simplest of audio-frequency equipment. Whistlers are remarkable bursts of VLF electromagnetic energy produced by ordinary lightning discharges... Usually a whistler begins at a high /audio/ frequency

and in the course of about one second drops in frequency to a lower limit of about 1000 cycles per second. Some whistlers are very pure gliding tones; others sound 'swishy' - much like air escaping from a punctured balloon tire. Some whistlers are very short, lasting a fraction of a second; others are long, lasting two or three seconds. Often whistlers occur in groups. In one type of group the whistler appears to echo several times with an equal time lapse between different members of the train of echos. In each whistler of the group the rate of decrease of frequency is less than in the preceding whistler. These groups are called 'echo trains'... The amplitude of whistlers is greatest at a frequency usually near 5000 cps, but sometimes as high as 15,000 cps. On rare occasions whistlers have been observed to sweep all the way from 35,000 down to 300 cps... As a result of the dependence of whistlers on lightning as well as on propagation factors, the day-to-day variation in whistler occurrence is great. Many days pass without the observation of a single whistler. On other occasions whistlers may occur at rates exceeding one per second. Synoptic data on the occurrence of whistlers show that whistler activity tends to be greatest at middle latitudes, reaching a maximum in the vicinity of 50° geomagnetic latitude. At the geomagnetic equator whistlers are virtually unknown, and in polar regions their rate is significantly lower than in middle latitudes...

"For the detection of whistlers it is necessary simply to employ a transducer that converts electromagnetic waves to sound waves. Perhaps because of this simplicity of observation, whistlers were observed early in the history of radio. One method of detection is to listen to a telephone receiver connected to a long, rural telephone line or to a submarine cable. The telephone line or cable acts as an antenna, and the telephone receiver converts the weak electrical currents into sound waves. An ordinary high-fidelity audio amplifier connected to 50 feet or so of wire makes another excellent detector of whistlers. It is also possible to detect whistlers by inserting metallic probes in the earth at some distance from each other and connecting these to a high-gain audio amplifier."

If anyone out there has a recording of whistlers - or of the "dawn chorus" (short overlapping rising tones in the 1 - 5 kHz region), I'd love to hear it - will return anything sent. Sounds to me like it'd be worth an expedition to northern New England to hear them live (too much electrical noise in Providence)!

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January Log

3150 U 2300 1 Jan: "Papa-Charlie-Delta-2" repeated til 2306--RH
3336.5 ? 0730 KRF-264/Mobile-6--CR
5692 U var. Coast Guard-1431/San Diego Air--DS Coast Guard-1455/Detroit Air--DS
5696 U var. Coast Guard-Ø2/Commsta Portsmouth--DS Coast Guard-149Ø & -2115/Commsta Boston--DS Coast Guard-1469/Commsta Kodiak--DS
6235 U 0741 2 Jan: 3#2# in German--RH
6683 L var. SAM-3Ø5Ø1 p/p via Andrews--DS SAM-Ø1/Andrews--DS SAM-xx127/Andrews--RH
U var. Kite-53/Albrook--DS Alfa-Alfa-Charlie-Yankee p/p Howard Metro via Albrook--DS
6697 U 0115 Mike-Ø-Golf r/c Delta-2-Zulu & Whiskey-8-Lima--RH
6715 L 0548 SAM-31681 p/p SAM Command via Andrews--RH
6723 U var. Lima-2-Tango/Echo-8-Kilo--DS
6753 A var. Weather summaries from CJX (St Johns) & VXA (Edmonton)--DK
6761 U 0329 Rondo-25 p/p Rondo Control via Germane--RH
6775 A 0703 2 Jan: 5# in German (very fuzzy)--DS
6790 U 2245 22 Jan: "Charlie-India-Oscar-2" repeated til 2250--RH
2345 30 Jan: "Charlie-India-Oscar-2"--RH
6870 U 0440 Sky King boast--RH
6875 U 2229 1 Jan: 4# in English (voice-looped, strong signal)--RH
6969 R 0037 NAU (San Juan Naval Radio calling ZRH between RY markers--DS
7445 U 2213 1 Jan: "Kilo-Papa-Alfa-2" repeated--RH
7520 U 0343 Hemp-34 calling Hasp Control & Worker--RH
7527 A 0715 31 Jan: "Atn 475-85" 5# in Spanish--RH
7532 U 2350 30 Jan: 5## in German, "ende" at 2352--RH
7701.5 ? 0105 KRF-264 r/c--CR
8582 C 1928 KLB (ITT Worldcomm, Seattle), CQ/QSX marker--MJ
8933 U var. Springbok-2Ø1, -237 & Springbok South/Johannesburg--RH
8967 U var. Swing-45 & MAC-4Ø618/Lajes--DS
8972 U 0408 Stockholm Aeradio in Swedish--DS
8984 U 1606 Coast Guard-17Ø3/Commsta Miami--DS
8991 U 2034 ??? calling Turino in Italian--RH
8993 U var. SAM-3Ø5ØØ p/p SAM Command via Albrook--RH SAM-xx493 p/p SAM Command via Albrook--RH Sentry-86 p/p Raymond-24 via MacDill--RH
9004 L 1938 Beirut-1 r/c Beirut-2--RK
9006 U 2303 Edmonton Military/3731--DS
9007 L 2339 SAM-3Ø5Ø1/Andrews--DS
9014 U 2156 Air Force Rescue-6Ø217/Scott--RH Snow-Ø1 p/p Raymond-24 via Scott--DS

Below 30 MHz continued

9018 L 1512 SAM-Ø1/Andrews--DS.
9023 U var. Snatch-62 p/p Huntress via Incognito--RH Snatch-Ø4/Incognito & Available-Ø8--RH
9028 U 0233 3L (IPA) from GUZ--DS
9037 U 2003 Foxtrot-6-Golf r/c Papa-Ø-Whiskey--RH
9040 U 2040 26 Jan: 5## in German, "ende" at 2046--RH
10112 U 0407 SAM-31681 p/p SAM Command via Andrews--RH
11118 U var. WAR-46 r/c--RH Applecart/Gunrack--DS
11176 U var. SAM-3Ø5ØØ p/p SAM Command via Albrook--DS Ascot-5Ø66 p/p Gander via MacDill--DS MAC-4Ø618 p/p Serious (Howard AFB) via Albrook--DS
11180 L var. SAM-3Ø5Ø1/Andrews--DS SAM-2413Ø p/p Hickam Command Post via Andrews--RH
U 0830 SAM-xx129/Andrews--RK
11182 U var. Sentry-24 & -25 p/p Raymond-24 via Scott--RH Bravo-Hotel-789/Scott--RH
11233 U 1632 Lahr Military/United Nations-3Ø4--DS
11239 U var. King-12/McClellan--DS Gull-Ø5/McClellan--MJ
11243 U var. Sirloin/Dilly-61 & Paula-86--MJ Muzzle/Tired Golf--DS Numa-44/Weedpatch--DS Lika-33 p/p Mather Monitor via Merchant--DS
11246 U 1500 Ascot-5899 p/p Charleston Base Ops via MacDill--DS
11249 L 1718 Air Force-1/Andrews--RH MJ
11282 U 1907 San Francisco Air (KSF7Ø)/United-61--MJ Honolulu Air (KVM7Ø)/United-181
12950 U 1845 30 Jan: "Victor-Lima-Bravo-2" call (weak)--RH
13134.9 U 1608 Motor vessel Shack p/p via WLO (Mobile Radio)--DS
13182 U 1939 Yankee-7-Sierra calling Lima-9-Xray; Foxtrot bcasts also heard--MJ
13190.7 U 2105 Royal Viking Sky p/p's via WOM Miami--DS
13204 U many Banger/Recall, Wayside, Appaloosa, Buzzard, Ringo, etc (wargames)--DS RH
13218 U var. Charlie-Fox/Papa-Lima-Lima/Lima-Hotel-Hotel (in Spanish)--RH
13244 U var. Ascot-5545/Lajes--DS Air Evac-4Ø62Ø p/p Format via Lajes--DS
13248 U var. DCN-5223/DHM-921--DS
13270 U 1938 WSY7Ø New York Radio: VOLMET bcasts--MJ
13282 U 1936 KSF7Ø San Francisco Radio: VOLMET bcasts--MJ
13442 U 1416 2 Jan: 3#2# in English; "383" call at 1609, no msg--RH
13472 A 1713 2 Jan: 5# in Spanish (very loud & fuzzy)--RH
13473 A 1711 7 Jan: 5# in Spanish (very fuzzy)--DS
13823 L 1900 SAM-xx972/Andrews--RK
13927 U 1434 USAF MARS net: ASB2FR, AJØ2, AFA4BJ, etc--RH
14996 C 1346 RWM: USSR time signals--DS
15015 U 1916 King-79 p/p Rescue Ops via Scott--RH
15022 U 1743 Ø1 & Ø3 p/p via Jeddah (in Arabic; switch to 6685)--RH
15031 U 2140 King-12/McClellan--DS
15038 U 1732 Trenton Military (CHR): aviation weather--MJ
15048 U var. Banger-Ø1/Hotel Baker & Baker Data--RH
17408.6 U 1856 WWD (Scripps Radio, La Jolla, Calif)/???--RH
17458 U 1848 30 Jan: two hi-speed electronic warbles (separable by tuning) simulcast in a 6 kHz-wide channel--RH
17966 U 1446 27 Jan: "Charlie-India-Oscar" call, then 5L (IPA) msg--RH
18018 U 1542 Kitty-2 p/p Queensville Ops via Architect--DS 2-Victor-Sierra p/p Gibraltar via Architect--DS
18019 U 1412 Royal Moroccan Air Force p/p Dover Command Post via Albrook--DS
18023 U 1540 Papa-Hotel-India-Lima-Romeo p/p via Berne Radio--RH
18666 U 1749 Flint-262 p/p 1Ø5 via Atlas--RH

Contributors: RH = editor (Rhode Island); MJ = Mark Johnson (Idaho); DK = Dean Kone (Maryland); RK = Rich Kramer (Pennsylvania); CR = Chuck Robertson (Illinois); DS = Daryll Symington (Ohio)

Abbreviations: U = USB; L = LSB; A = AM; C = CW; / = communicating with; p/p = phone patch; r/c = radio check; # = numbers; L = letters; IPA = international phonetic alphabet ## = numbers, each group repeated

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The End is Near

In fact, next month's column will be my last as "Below 30 MHz" editor. It has been fun, but I really spend too much time on this column to sustain my other (income-producing!) commitments. If my time frees up again later on, I might come back to the newsletter - though preferably in another slot. My heart belongs to HF, but frankly, there are other areas I want to explore. Time for another person to take this column in a new direction. Anyone interested? Apply to Ginny Slick. Qualifications: good typing, interest in the subject, preferably a good HF receiver, some knowledge & appreciation of the legal implications of publishing certain kinds of information, some free time at the end/beginning of the month. Rewards: extraordinary mail & phonecalls from extraordinary people. Next month's column will be an index to all the columns that have appeared since I started editing in Feb 82 and probably some final thoughts on monitoring. Hold your loggings until a new editor is announced. But in the meantime keep your ears to the sky...

Business, Etc.

This column is for reporting frequency and radio system information for the following varied services: business, forest products, petroleum industry, special industrial, manufactureers, news media (behind-the-scenes radio, TV & newspaper), motion picture industry, security (private patrol, detective agencies, campus security & police, amusement park & stadium security, shopping center & mall security, plant/business/hotel security, etc.), General Mobile Radio Service (GMRS), mobile phone/RCC & paging, trucking firms, bus lines, taxi cabs, tow trucks, utility companies (private & municipal water, power, electric, gas, telephone, etc.), and all school & college related frequencies. Send information and questions pertaining to the radio services covered in this column to:

Brandt Niemuth, P.O. Box 541, Rosemont, IL 60018

Greetings from The "Windy City"

ITEM: The Detroit Grand Prix will be running in the later of June (23rd to 26th??), so keep your eats peeled to the previously published freqs and for any new ones for next years running.

ITEM: In the Chicago area, the Chicago & North Western RR commuter line has closed down the Des Plaines coach yard on February 1st and has relocated equipment and personnel to other facilities. Rumor has it that the Des Plaines property was sold and that it possible that other facilities will be enlarged.

From the All Ohio Scanner Club comes the following on the East Ohio Gas;

37.5	KQE 411	Plymouth Twp (Ashtabula "Lakeshore")
48.62	KEW 457	Akron
	KEW 457	Dover
	KQG 891	Richfield (SR 176)
	KQC 384	Cleveland (E 9th)
	KBV 555	Canfield (Austintown)
	KQF 412	Doylestown (Chippewa)
	KQH 219	Fremont
	KQA 803	Jackson (N Canton)
	KQA 402	Price
	KQC 966	Macedonia (Twinsburg)
	KBV 683	Sugar Crek Twp
	KQF 445	Temporary
	KA 5122	Mobiles
48.86	KEW 457	Akron
	KSM 768	Plymouth Twp (Ashtabula)
	KQC 384	Cleveland (E 9th)
	WZN 741	Franklin
	KRG 266	Cambridge (Claysville)
	KJE 516	Richfield (SR 176)
	KKW 455	Dover
	KQA 803	Jackson (N Canton)
	KRR 900	Temporary
	KM 7172	mobiles
153.635	KZH 751	Akron (Hi-Lo)
	WRN 398	mobiles
	KW 3835	mobiles
158.145	KDS 419	New Philadelphia
	KJQ 353	Wooster
	KQE 977	Perry Twp (Canton)
	KGH 330	Austintown
	KQ 7218	mobiles
158.175	KJB 652	North Randell
	KQF 971	Westpark
	KUW 598n	Cleveland
	KUW 599	Cleveland
	KQ 7218	mobiles

501-On the Air
502-Off the Air
503-Anything
504-Nothing
505-Phone at Once
506-Phone Anytime
507-Too Loud/Fast
508-No Reception
509-Repeat
510-Understood
513-Personnal Distress

158.190	WYD 312	Akron
	KGH 328	Akron (Cascade)
	KGH 327	Canton
	KQD 829	Warren
	KQB 883	Youngstown
	KBX 704	Belpre
	KQH 520	Marletta
	KQP 454	temporary
	KA 5975	mobiles
158.205	KJB 650	Wickliffe - NE
	KJB 652	W Randall
	KJ 3111	mobiles
158.250	KJT 956	Chardon
	KQA 884	Cleve. R-55th
	KQF 454	temporary
	KA 5975	mobiles
158.265	KQG 810	Akron
	KGU 921	Dennsion
	KA 5975	mobiles
451.125	WRE 302	Akron
456.1	KA43647	mobiles

Other contributions this month come from David (NJ-181) and Ed (MD-082). Thanks to one and all. Please remember that without you, this would not exist.

Happy Monitoring

David (NJ 181)

The following are College Security Frequencies for the Philadelphia area. They were obtained from a list which is two years old. Most of the frequencies are out of my range for picking them up, so please write in with corrections.

Beaver College Security- - - - - - - - - -464.075
Community College of Philadelphia- - - - -154.600
Drexal University Security- - - - - - - - 154.600
'' '' '' - - - - - - - - 464.050
Girard College Security- - - - - - - - - -502.437
Hahneman Medical College- - - - - - - - - 155.325
'' '' '' - - - - - - - - - 162.663
Lasalle College Security- - - - - - - - - 154.570
'' '' '' - - - - - - - - - 154.600
Lincoln University Security- - - - - - - -151.865
Montgomery County Community Coll. Security154.540
Penna. State University (Abington)- - - - 464.475
Phila. College of Art- - - - - - - - - - -154.600
St. Josephs College Security- - - - - - - 151.330
'' '' '' '' - - - - - - - 154.570
Temple University Security- - - - - - - - 460.400
'' '' '' - - - - - - - - 151.745
University of Penna. Security- - - - - - -462.000
'' '' '' - - - - - - - - - - - -151.745
Villanova University- - - - - - - - - - - 464.925

165.062	Aberdeen Proving Grounds
165.187	'' '' ''
170.125	'' '' ''
464.575	Abington Hospital Security (PA)
155.295	'' School District (PA)
464.525	ACME Markets (PA)
460.950	ADT Protection
462.600	AED Communications
461.000	AFA Protective Systems Inc.
154.600	Albert Einstein Medical Center
457.525	'' '' '' ''
457.575	'' '' '' ''
457.600	x '' '' '' ''
467.750	'' '' '' ''
118.200	Allentown Airport
156.240	'' Hiway Department
158.25	'' Streets Department
047.440	Allied Concrete Company
456.725	ARCO Communications
464.763	'' ''
463.763	'' ''
463.863	'' ''
464.163	'' ''
464.363	'' ''
462.725	'' ''
464.375	'' ''
450.850	Arco Go Patrol
454.000	'' '' ''
462.725	'' '' '' Mobile Units
461.400	'' '' ''
450.050	'' '' ''
450.150	'' '' ''
464.050	Ashborne Transportation Co.
152.870	Asplundh Aviation Inc.
043.040	Asplundh Service Company
047.880	Atlantic City Electric Co.
047.980	'' '' '' ''
048.120	'' '' '' ''
048.360	'' '' '' ''

Business, Etc. continued

157.470	Atlantic City Towing Trucks
464.525	Avis Rent-a-Car
463.600	Bally's Park Place Casino Security and Paging
464.100	" " " " "
462.800	" " " " Paging
464.325	" " " " Surveillance
464.575	" " " " "
463.575	Barco Communications
151.625	Barnum & Bailey Ringling Bro. Circus
154.540	Beach Trams of Atlantic City
158.730	Bethlehem Steel Security
460.975	Baker Protective Sevices
461.175	Berks Cable TV (Reading)
461.925	Boardwalk Regency Casino (A.C.)
159.495	Brinks Inc.
035.725	Broadway Maintenance
159.810	Brooks Armored Car Service

The Network uses Motorola 300S radios with the following:

ABC NEWS FREQUENCY SCHEME FOR 1983

New York and Washington Bureaus:

*T1 455.087	R1 455.087
*T2 455.587	R2 455.587
*T3 450.587	R3 450.587
*T4 450.587	R4 455.587
*T5 450.612	R5 455.612
*T6 450.112	R6 455.087

Use in Washington Bureau:

...Assignment Desk
...Engineering
...Production

Washington Low-power/In-house Production:

*Washington TV-A 455.675
*Washington TV-B 455.725

The ABC Washington Bureau also uses some 40 different frequencies in the 45-49MHz band for in-plant feeds, & many BC-250s on every floor.

Boston Bureau:

T1 450.587 R1 455.587

Chicago Bureau:

T1 455.587	R1 455.587
T2 450.587	R2 450.587

LA Bureau/KGO:

T1 455.287	R1 455.287
T2 450.287	R2 450.287
T3 450.150	R3 450.150

Southern Bureau:

T1 455.087	R1 455.087
T2 455.587	R2 455.587
T3 450.587	R3 450.587
T4 455.487	R4 455.487
T5 450.112	R5 450.112
T6 450.412	R6 450.412
T7 455.387	R7 450.387

Some other Washington Media Frequencies that I received from my local "scanner-owner's welcome wagon" so to speak:

AP Radio.....450.800
455.450

CBS Network.....450.487
450.512
450.612
455.800

WJLA-TV7.....161.640
161.700
170.150
455.050
*455.550

Business, Etc. continued

Metromedia/WTTG-TV5.152.870
*161.730
166.250
Mutual Radio.....455.412
455.482
NBC Network/WRC-TV4.455.050
455.350
455.750
455.850
161.670
WDVM-TV9.....450.212
450.350
450.750
455.950

WGMS Radio.....161.670
161.700
161.730
161.760
Time/UPI.....452.975
457.975
WMAL Radio.....450.925
455.212
455.925
Skyhawk-63 *161.700 Traffic
WTOP Radio.....*450.350 Traffic
WAVA Radio.....166.250
Metro Traffic.....463.850

I have only been scanning in the Washington area since May, on my way to and from work. I would appreciate any info from others. I would like to know what frequencies Cable News Network uses, and who got those used by the defunct Satelite News Channel? Also, who is the "Greater Washington Educ Telecom Assn" in Arlington, Va on 455.287 as listed in Police Call?

Ed (MD-082)

CANADA

Send Canadian frequency information, radio system details and other information relating to Canadian monitor radio listening and questions to:

Rob Berezowski, 211 Costigan Bay, Saskatoon, Saskatchewan, S7J 3P4 Canada

Hello all and welcome to the April Canada column. Things have warmed up here considerably weatherwise. We actually have some snow melting out there. We are already planning for our midterm break, which is after midterms of course. They call it "Suicide Week," but I hope they are kidding. I've got a lot of material this month so let's get started.

Colin (CAN-096) has sent in a whole bunch of material for the B.C. Interior, mostly for the Kootenay area. Doug (CAN-041) sent in some additional vehicle ID info for other parts of B.C. that I have added to Colin's list. The RCMP in the B.C. Interior use the following set of frequencies in all areas.

Repeaters A 139.245/138.525in
B 139.410/138.675in
C 139.590/138.885in
D 139.320/138.585in
E 139.500/138.765in
F 139.560/138.825in
G 139.530/138.795in
Tac 1 139.080
Tac 2 138.945
Tac 3 139.140
Tac 4 139.185
Tac 5 139.215

The RCMP have their repeater sites located on mountains for best range and link them together using UHF radio links. The list below are RCMP frequencies in use at various sites.

Prince George	139.080, 139.215, 139.590
Bear Mountain	139.410, 414.1625, 414.2375, 414.5875, 466.7375
Mont Bruce	414.3125, 414.4875
Coffee Creek	414.3125, 414.4875, 414.6625
Nuid Mountain	414.2375
Penny	139.245, 419.5875, 419.6375
Naiyansh	138.765, 138.945, 139.080, 139.140, 139.185, 139.215
Mount Wadi	139.320, 419.1625, 419.3875
419.1625	Nelson TX to Grand Forks (CH C & G)
419.2375	Nelson TX to New Denver (CH C)
419.3875	Nelson TX to Kaslo (CH G)
419.4875	Nelson TX to Nakusp (CH D & E)
419.5875	Nelson TX to Crescent Valley, Castlegar, Trail, Rossland & Fruitvale (CH B & F)

RCMP Vehicle Identification Prefixes

Nelson Sub-Division

1 Midway
2 Grand Forks
3 Trail
4 Rossland
5 Castlegar
6 Fruitvale
7 Salmo
8 Crescent Valley
9 New Denver
10 Nakusp
11 Kaslo
12 Nelson
13 Nelson

Cranbrook Sub-Division

4 Cranbrook Sub-Div Cars
14 Creston
15 Cranbrook
16 Kimberley
17 Invermere
18 Radium
19 Fernie
21 Golden

Lower Mainland RCMP

1 Burnaby Municipal
2 Coquitlam Municipal
3 North Vancouver Municipal
4 Richmond Municipal
5 Surrey Municipal
10 Unit A Freeway Patrol
11 Unit B " "
12 Unit C " "
15 Abbotsford
16 Agassiz
17 Vancouver Int'l Airport
18 Boston Bar
19 Chilliwack
20 "
21 " Sub-Div.
22 Gibsons
23 Maple Ridge
24 Hope
25 Langley
26 Mission
27 Pemberton
28 Sechelt
29 Squamish

West Kootenay area

B.C. Dept of Highways	143.295,	143.415,	143.445,	143.895
B.C. Fish & Game	155.220			
Civil Defence	148.655,	148.685,	149.495,	149.525
National Parks	166.050			
B.C. Emergency Health Services	Ch1			149.680
	2			149.110
				149.590
				149.890

Canada continued

B.C. Ministry of Forests	F1		163.830/163.830
	F2	Red	163.935/163.065in
	F3	Green	163.995/163.125in
	F4	Blue	164.085/163.215in
	F5	Orange	164.145/163.275in
	F6	Yellow	164.205/163.335in
	F7	Black	164.265/163.395in
	F8	Purple	163.965/163.095in
		Also:	163.890/163.890
			163.710
			164.040
B.C. Hydro & Power Authority			163.110
	KR		165.780/165.210in
	BA		165.930/165.300in
	FC		166.200/165.480in
	LL		165.570
	RR		165.780
	AA		165.930
	CC		166.200
	DD		166.290
Fire Departments	Fruitvale		151.475
	Rossland		153.950
	Cominco (Trail)		154.890
	Trail		155.070
	Castlegar		155.910
	Nelson		155.430
Logging and Forest Service Companies (Kootenay Area)			
Darkwoods Forest Products			151.835
Slocan Forest Products			152.030
Hearn Bros. Logging			152.090
Hoscroft Logging			152.120
Atco Logging			152.390
Crestbrook Forest Industries			152.870
Hadikin Lumber			153.110
Selkirk Logging			153.230
Evans Forest Products			153.320
Pope & Talbot Ltd			153.350
D & A Logging Wyndell			153.380
Riverside Logging			153.440
Veale Holdings			153.470
Lousiana Pacific Logging			153.500
Weyerhauser Logging			153.530
Revelstoke Sawmills			158.460
Galloway Lumber Ltd			159.510
Northwood Forest Products			162.330
Kalesnikoff Lumber Ltd			164.010
T & H Sawmills			165.540
Fabco Logging			165.960
Kootenay Forest Products	165.720	165.840	166.080
Canadian Cellulose	153.560	153.620	157.470
	158.190	162.240	162.360
Canadian Broadcasting Corp. (CBC)	Mount Nelson		152.990
	Shop		157.440
Regional Security Service			153.315
Cominco (at Trail)			153.590
	Security/Fire Dept		154.890
Western Auto Wreckers			152.300
City of Nelson	Utilities		153.715
			156.330
	City Police		453.0375
			453.3625
Nelson Taxi			163.590
			168.780
Castlegar Public Works			155.160
Castlegar Paving			159.630
Shorty's Towing			159.900
Crowsnest Industries			157.560
West Kootenay Power & Light			153.410
			154.130
			154.250

Canada continued

Kamloops	RCMP	City Dispatch	139.530
		City Tac 1	139.080
		City Tac 2	138.945
		Sub-Division	139.245
			139.215
		Portables	138.800
		Aircraft	139.800
	Fire Dept.		140.400
	Ambulance		149.260
			149.680
	Public Works		153.500
	Dons Towing		153.380
	Mikes Towing		167.395
	Highways Dept		151.430
			152.210
	B.C. Forest Service		164.205

One thing that I would like to add to the list above. In case anyone is not familiar with Cominco, it is a mining company with mines across Canada. At Trail they have a lead and zinc mine. That's Pb & Zn for you chemists out there. In the list above when I say Cominco (Trail) Fire Dept, I mean the Cominco mine Fire Dept. I am not implying there is a town named Cominco.

To add further to the list above, I have some material that comes from a member who wishes to remain anonymous. The RCMP in the B.C. Lower Mainland/Vancouver Island area use 141.210 for the Victoria Air Coordinator. The RCMP Helicopters use this channel to relay destinations, ETAs, # of passengers and other information to the Air Coordinator. (As a side note recently one of the RCMP helicopters was investigating a complaint of some thefts in a remote part of Vancouver Island when the helicopter hit some unmarked and uncharted power lines. Both RCMP officers were killed.-ed)

Our anonymous member also passes on that the Pitt Meadows Fire Dept is dispatched by Maple Ridge RCMP on 154.710. Langley RCMP Tac 2 is 139.215. B.C. Forest Service uses 164.085R in the Lower Mainland area for mostly administrative traffic. No other frequencies have been heard, probably because they are out of range.

The frequency 155.220 is used by B.C. Provincial Parks. This channel appears to be used province wide. It is used in the following locations:

1) Mt Seymour Prov. Park (also Mt Seymour Ski Patrol)
2) Hollyburn Mountain Prov. Park
3) Cypress Bowl Prov. Park (also Ski Patrol)
4) Black Mountain Ski Patrol
5) Golden Ears Prov. Park

I am sure that 155.220 is also used in many other parks in B.C.

The B.C. Dept. of Highways have a reserve cache of radios for use during emergencies. These emergencies would include washouts, slides, cave-ins, and other problems. These radio packsets have two frequencies stamped on them:

F1 152.210
F2 151.430

These frequencies are probably low power simplex, but they could be worth listening to.

On the subject of Emergency Health Services our anon sends in:

Air Ambulance to Vancouver Base	123.450
Lower Mainland Hospital Net	158.760

The latter frequency is a base to base net. No emergency traffic has been heard, but radio checks and bed availability reports are made at 0830 daily. (This frequency will more than likely be heavily used during a disaster or disaster excercise, and would be worth remembering -ed)

I have one more item before I close. (This should have gone in Colin's list, but was missed)

Red Mountain Ski Patrol/Operations 150.150

Well that's all for this month. The contributions have slowed down a little. I have enough for next month, but after that I'll have to babble for a few pages. If you don't want that to happen, then send some material in. Until next month, best wishes to all.

COMMUNICATIONS PROFILE

Cliff Polkinghorn, 14310 Acacia St., San Leandro, CA 94579

This column is for special projects that explain various radio systems in detail. Frequencies and radio codes of not only municipal agencies and certain federal government agencies may be listed, but also large businesses and corporations. The contribution must be lengthy enough that publishing it in one of the regular columns would not be possible. If you are inclined to submit a report as the one below appears, please follow No. 8 in the inside front cover of the Newsletter.

HI----Welcome to the APRIL ISSUE OF COMMUNICATIONS PROFILE. This month we are going to take a look at the BAY AREA RAPID TRANSIT DISTRICT. (here in the S.F. BAY AREA)

This info is provided to you from three (3) sources.
#1-- THE PHOENIX SOCIETY OF SAN FRANCISCO
#2-- ERNST VON IBSCH CA LA 033
#3-- CLIFF POLKINGHORN CA AL 029

Before we look at B.A.R.T., I would like to thank a few people for their contributions toward the C.D.F. article I mentioned I wanted to do. THANKS GO OUT TO:
FRED RICHTER (NM-005)
C.L. CLAUSSEN (CA-RI-016)
KENT HAYCOCK (CA-SZ-004)
BRENT BASINGER (CA-SB-016)
JAMES MICHAEL WRIGHT (CA RI-007)
GEORGE WIGHT (CA-TO-001)

I am trying desperatly to put all of this info together, but I have found it to be quite large. I will have to do some hard talking with the R.C.M.A. staff, to find enough room to print it all. I will let you know of the outcome.

NOW-------ON TO B.A.R.T.----

FREQUENCIES:

TRAIN DISPATCH	160.860
ADMINISTRATION	160.410
POLICE DEPT.	453.150
CONCORD YARD	453.975
MAINTENANCE	43.780

POLICE: (453.150)
RADIO IDENTIFIERS: (3 SEGMENT SYSTEM)

SEGMENT #1	=	1= VEHICLE UNIT
		2= TRAIN (or undercover) UNIT
		6= CADET
SEGMENT #2	=SHIFT	A= DAYS
		B= SWING
		C= GRAVES
SEGMENT #3	=BEAT	1= RICHMOND -- BEREKLEY
		2= CONCORD -- ORINDA
		3= OAKLAND -- DOWNTOWN
		4= FRUITVALE -- BAYFAIR
		5= SAN LEANDRO -- FREMONT
		6= TRANSPORTATION
		7= SAN FRANCISCO
		33= FOOT BEAT (SAN FRANCISCO)

FIRE: (160.860) (future plans call for a special freq. for fire use only)
c/o ONE CHIEF (known as FIRE SERVICE FOREMAN)
16 E.V.O. (EMERGENCY VEHICLE OPERATORS)
4 E.V. (EMERGENCY VEHICLE)
NOTE: (1) E.V.'s are specially equipped for RAIL USE
(2) used for tunnel emergencies only
(3) ORANGE FIRE ENGINES
(4) LOCATIONS AS FOLLOWS: 1 at DALY CITY STATION
1 at EMBARCADERO STATION
1 at MacARTHUR STATION
1 at ORINDA STATION

Communications Profile continued

TRAINS: (160.860)

"A" CARS = OPERATOR CAR TO PROPEL TRAIN
"B" CARS = PASSENGER CARS ONLY
"C" CARS = DON'T EXIST YET

RADIO IDENTIFIERS:
100 series (100 to 119) = FREMONT TO DALY CITY
200 series (220 to 239) = FREMONT TO RICHMOND
300 series (360 to 379) = CONCORD TO DALY CITY
400 series (440 to 459) = RICHMOND TO DALY CITY
500 series
600 series
700 series
800 series = REPLACEMENT TRAINS
900-949 series = EXTRA TRAINS
950-999 series = DISABLED TRAINS or RUN NUMBER CHANGES

ODD NUMBERS (ie. 101,221,361,441) = 10 car trains
EVEN NUMBERS (ie. 102,222,362,442)= 8 car trains

TANGO #10 & #12 = TECHNICIANS

OTHER INFORMATION:

POLICE:

DISPATCHED BY A P.D. OFFICER IN A SEPERATE, BUT ATTACHED, ROOM AT BART CENTRAL.

FIRE:

E.V.'s ARE STORED (HOUSED) AT OR NEAR THE BART STATION THEY ARE ASSIGNED TO. IT TAKES APPROXIMATELY 6 to 8 MINUTES FOR THE E.V.O.'s to MOUNT THE E.V. ONTO THE TRAIN RAILS.
THE E.V.O.'s DO NORMAL STATION MAINTENANCE WHEN NOT ACTIVE IN AN EMERGENCY ROLE. THEY WORK 10 HR. SHIFTS, AND CARRY EITHER PAGERS OR HANDHELD RADIOS.
ORIGINALLY THE TRACK DEPT. WAS SUPPOSE TO OPERATE THE E.V.'s- THAT CHANGED, AND THE P.D. WAS ASSIGNED THE TASK, SOON IT WAS EVIDENT THAT THE P.D. WAS NOT ALWAYS NEAR THE E.V.'s STORAGE LOCATION WHEN NEEDED, SO ANOTHER CHANGE WAS MADE. B.A.R.T. ESTABLISHED THE POSITION OF E.V.O.
THE E.V. CAN CARRY 7 FIREFIGHTERS, IT HOLDS 350 GALLONS OF WATER, AND NUMEROUS OTHER PIECES OF FIREFIGHTING EQUIPMENT.
CITY FIREFIGHTERS ARE TRANSPORTED TO THE FIRE SCENE VIA ANOTHER TRAIN.
ALL FIRE ALARM BOXES IN BART STATIONS TERMINATE AT BART CENTRAL--(NOT THE LOCAL FIRE DEPARTMENT)
BART CENTRAL HAS FOUR (4) FIRE HOT LINES TO THE FOLLOWING FIRE DEPARTMENTS:
SAN FRANCISCO FIRE---488.3625, 488.5625, 488.7625
OAKLAND FIRE--- 154.355 (or 153.785)
BERKELEY FIRE ---154.190
CONTRA COSTA (CONSOLIDATED) FIRE--46.10, 46.16, 46.22, 46.26, 46.32, 46.38, 46.42 (ORINDA)
OTHER FIRE AGENCIES ARE CONTACTED VIA AN "AUTO DIALER TELEPHONE"

BART CENTRAL ALSO HAS TWO (2) "OPEN LINES"--ONE TO S.F.F.D., and ONE TO O.F.D. IN CASE OF A LARGE FIRE IN THE TRANS BAY TUBE, BOTH DEPARTMENTS CAN PUT A BATTALION CHIEF IN BART CENTRAL, TO USE THE OPEN LINES TO THIER OWN DISPATCH CENTERS, FOR COORDINATION PURPOSES.

BART CENTRAL:

DISPLAY BOARDS SHOW THE FOLLOWING:
1 TRACK POWER, CIRCUIT LAYOUT
2 OTHER ELECTRICAL EQUIPMENT
3 TRAIN DISPATCH (LOCATOR)
RED = TRAIN
WHITE = TRACK
GREEN = ROUTES GRANTED BY DISPATCH
AMBER = ROUTE CHANGES REQUESTED BY TRAIN

POWER SUPPORT CONTROLLER CONTROLS CKT. BREAKERS FOR TRACK POWER, SMOKE EVACUATION FANS ETC., VIA EITHER MANUAL CONTROL OR COMBUTER. (TRACK IS CHARGED WITH 1000 VDC)

MAINTENANCE SUPERVISOR IS LOCATED AT BART CENTRAL, IN CASE HIS COORDINATION IS REQUIRED IN AN EMERGENCY. ALL NORMAL MAINTENANCE DISPATCHING IS ALSO HANDLED VIA BART CENTRAL.

THE COMPUTER IS A WESTINGHOUSE 250. (same as ZEROX SIGMA 7)

TRAIN CONTROLLER (DISPATCHER) CONTROLS TRAIN MOVEMENT, SPEED, AND SEPERATION. HE

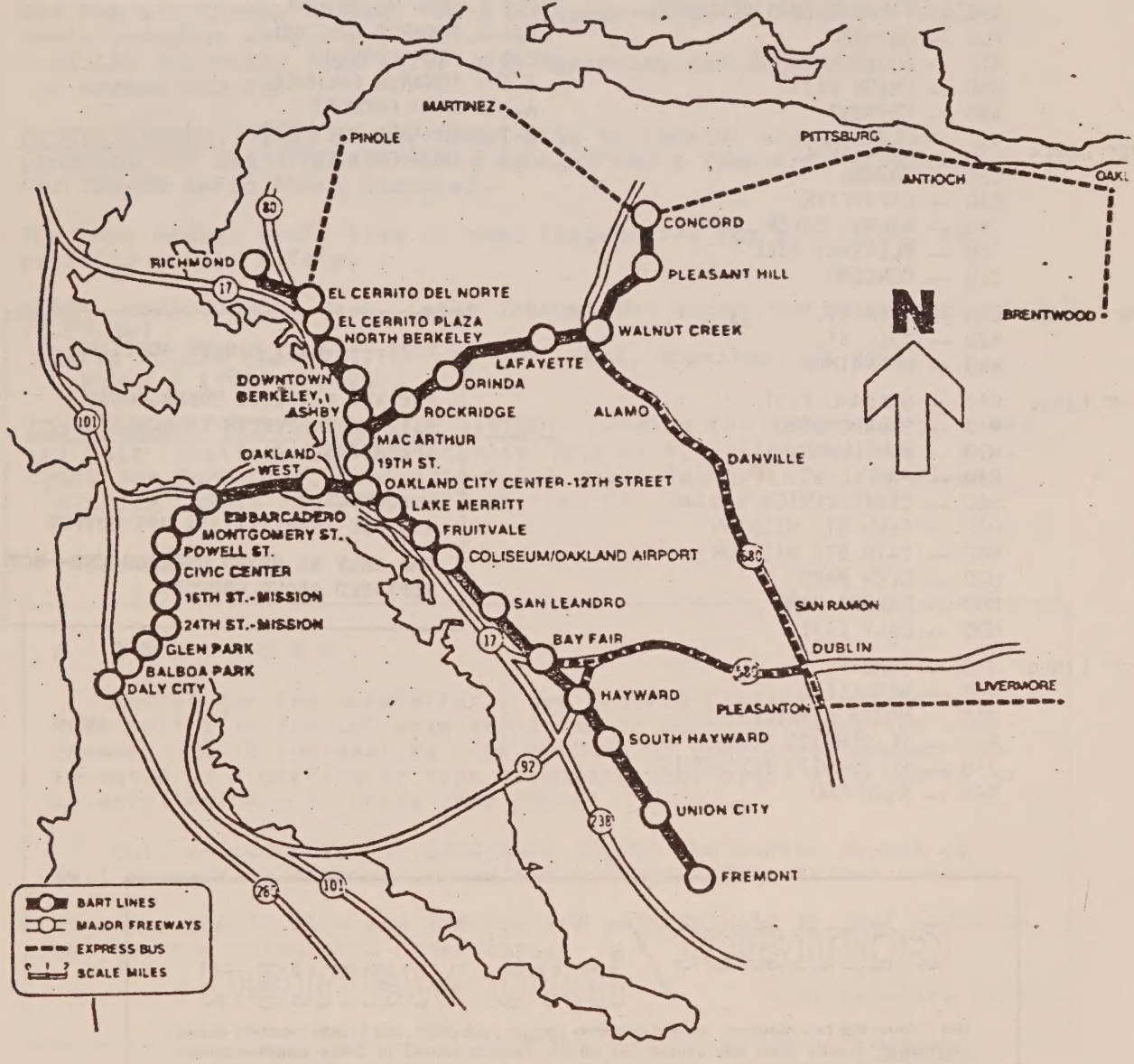
Communications Profile continued

HAS DEDICATED HOT LINE TO EACH TRAIN YARD (as below)
SOUTHER ALAMEDA COUNTY YARD (HAYWARD)
CONCORD YARD
RICHMOND YARD
HE USES THIS HOT LINE TO BE NOTIFIFED WHEN A TRAIN IS READY TO DEPART THE YARD, ANI ACCESS THE RAIL SYSTEM. TRAIN CONTROLLER MUST SLOW DOWN OR STOP OTHER TRAINS, SO THE ADDITIONAL ONE CAN GET ON THE SYSTEM. HE/SHE MUST ALSO MAINTAIN A REGULATEI SEPERATION, BETWEEN TRAINS.

BART

Stations & Routes

BAY AREA RAPID TRANSIT
800 Madison Street • Oakland, California 94607
General Offices: 465-4100



Phone Information Center

CALL TOLL-FREE

933-B-A-R-T

OTHER INFORMATION: (cont)

THE SYSTEM IS EQUIPPED WITH MILE POST MARKERS. IF A TRAIN DEVELOPES A PROBLEM, THE OPERATOR WILL RADIO BART CENTRAL AND TELL THEM OF THE PROBLEM, AND THE MILE POST MARKER #. THE TRAIN CONTROLLER WILL ACCESS AN "APPLE COMPUTER" WHICH WILL READ OUT (on video & hard copy) THE TRAINS EXACT LOCATION, WHAT F.D. and/or P.D. WOULD BE INVOLVED, WHETHER THE TRACK IS AERIAL. TUNNEL,GROUND LEVEL ETC., AND ANY OTHER SPECIAL INFORMATION AS REQUIRED.

YOU SHOULD KNOW THAT B.A.R.T. TRAVELS THRU FOURTEEN (14) DIFFERENT FIRE JURISDICTIO AND THIRTY (30) DIFFERENT POLICE JURISDICTIONS. THAT IS A LOT OF COORDINATION !!!

B.A.R.T. STATION IDENTIFIERS:

"A" LINE= A10 -- LAKE MERRITT
A20 -- FRUITVALE
A30 -- COLISEUM
A40 -- SAN LEANDRO
A50 -- BAYFAIR (SAN LEANDRO)
A60 -- HAYWARD
A70 -- SOUTH HAYWARD
A80 -- UNION CITY
A90 -- FREMONT

"C" LINE= C10 -- ROCKRIDGE
C20 -- ORINDA
C30 -- LAFAYETTE
C40 -- WALNUT CREEK
C50 -- PLEASANT HILL
C60 -- CONCORD

"K" LINE= K10 -- 12th ST.
K20 -- 19th ST.
K40 -- MacARTHUR

"M" LINE= M10 -- OAKLAND WEST
M17 -- EMBARCADERO
M20 -- MONTGOMERY
M30 -- POWELL ST.
M40 -- CIVIC CENTER
M50 -- 16th ST. MISSION
M60 -- 24TH ST. MISSION
M70 -- GLEN PARK
M80 -- BALBOA PARK
M90 -- DALY CITY

"R" LINE= R10 -- ASHBY
R20 -- BERKELEY
R30 -- NORTH BERKELEY
R40 -- EL CERRITO PLAZA
R50 -- EL CERRITO DEL NORTE
R60 -- RICHMOND

B.A.R.T. TRACKS IDENTIFICATION:

R-1 = TOWARDS RICHMOND
R-2 = FROM RICHMOND
K-1 = TOWARDS MacARTHUR
K-2 = FROM MacARTHUR
C-1 = TOWARDS CONCORD
C-2 = FROM CONCORD
A-1 = TOWARDS FREMONT
A-2 = FROM FREMONT
M-1 = TOWARDS DALY CITY
M-2 = FROM DALY CITY

NOTE:----LAST MINUTE ADDITION

THE NEW B.A.R.T. UNDERGROUND FIRE RADIO SYSTEM IS NOW OPERATIONAL !

FREQUENCIES:
153.830 INPUT/// 154.295 OUTPUT

CAN ONLY BE HEARD UNDERGROUND--NOT REPEATED ABOVE GROUND.

contact/info wanted

This column has two purposes: to help members contact each other, and to help members obtain information directly from one another on various subjects related to 2-way communications monitoring. If you desire to converse, meet, or correspond with other members by telephone, letter, or cassette tape in a certain geographic area or with members who have similar listening interests, this is the perfect place for you to make known your interests. Remember – those who respond will do so directly, so be sure to provide your phone number, the best time to be called, or your address. Write to:

Amy Polivka, 12906 Ohio Circle, Omaha, NE 68164

CHESSIE FREQS WANTED: Especially Yard channels. Also, does anyone know if Norfolk Southern has plans to establish common frequency/ies for both SOU & N&W? (12-30-83)
JIM BUSCHER (DC-009), P.O. Box 26066, Washington, D.C. 20001

FREQUENCY SWAP: Many frequencies to swap all over Province of Quebec and Ontario and in USA the State of Maine. Main interest Fire, Police, Emergency. If you live in the State of Maine and receive 162.825, 162.925 and 167.275, this member wants to hear from you. (12-30-83)
GILLES THIBODEAU (CAN 101), 3653 Montcalm, Lac-Megantic, Quebec G6B 2H8 - (819) 583-1817 after 6 hrs. PM Monday to Sunday

PHILADELPHIA AREA FREQUENCIES: This member resides in a western suburb of Philadelphia and would like Business Radio frequencies for Philadelphia/Lower Merion Township (PA) (Montgomery County) area. Also would like any other unusual frequencies for the same general area. (1-2-84)
HARRY FERGUSON (PA-180), 348 Merion Road, Merion Station, PA 19066 (215) 667-5253 after 7 p.m.

BORDER CONTACT WANTED: This member wants contact for Montreal Island and metropolitan area, also contact from members close to the USA and Canada border. Many frequencies to be checked. Cassette recorder available. (11-4-83)
GILLES THIBODEAU (CAN 101), 3653 Montcalm, Lac-Megantic, Quebec G6B 2H8

MISCELLANEOUS: This member would like to receive any computer programs for Radio Shack MC-10; he also has a frequency directory for TRS-80 Radio Shack computer.

The same member would like to swap frequencies for all areas, especially public safety.

ALSO: Would Gordon West please contact the above-mentioned member? (1-17-84)
DAVID FULLER (LA-031), Rt. 2, Box 156-A, Bogalusa, LA 70427
Phone # (504) 732-9903

LOS ANGELES CITY FREQUENCIES WANTED: Looking for frequencies, codes, and unit locations for Los Angeles City Fire, Police and EMS. Will trade New York City, Connecticut and Rhode Island info. (1-27-84)
WILLIAM DENNIS (CT-079), RFD #1, Box 89, Baltic, CT 06330

A R E M I N D E R . . .

Except for the newsletter's New Members Listing,* it is against RCMA policy to furnish selected lists of members' names and addresses. So if you want to know members in your area, members interested in a particular type of monitoring, etc., THIS COLUMN is an excellent way to state your intent.

This reminder is included here due to the recent amount of mail requesting members' names and addresses for various reasons.

*A new member's name and address are printed only if that individual has not stipulated otherwise.

Carol Ruth
RCMA Managing Editor

FCC TOPICS

George DuBois, Editor

FCC news and information of interest relating to two-way communications. Send comments and questions to:
George DuBois, 10048 NE Campaign, Portland, OR 97220

The FCC's Office of Plans And Policy released an interesting report last fall. Entitled "A Framework for a Decentralized Radio Service", it envisions a completely new radio service, one in which entrepeneurs would be free to offer any type of service, common carrier, MDS-type TV entertainment programming, point-to-point or land mobile service.

Presently, the Commission allocates spectrum by identifying categories of users - broadcast, land mobile, fixed, etc. Spectrum is then allotted to each service based on anticipated need and technical and operational rules are established to govern its use. The disadvantage to this is that it is not always spectrum efficient. The demands for frequencies in one service may exceed supply while whole bands of spectrum in another service may sit unused. The use of new, innovative transmission techniques is effectively discouraged. Demand also varies widely in different areas of the country. In a Decentralized service, spectrum would be assigned and the local operators themselves would then make basic decisions regarding its use. It's assumed they would be familiar with the publics need in their area.

In considering where in the spectrum to locate such a service, it's considered essential that the frequencies used are high enough to eliminate the possibility of skip interference and also to provide a sufficiently large band, both to allow easy reconfiguration and to allow wide bandwidth assignments, if needed. Ideally, the new band should now be unused. Four possibilities were suggested. One is the Land Mobile Reserve at 900 mHz (see Aug., 83 column), but most of this band is targeted for future use. Another possibility is unused channels in the 88-108 mHz FM Broadcast band, but the bandwidth would be limited and the potential for interference great. 30 mHz were allocated at 1.5 gHz in 1973 for aeronautical satellite use and have remained unused. But possible future use is unknown and it is relatively high in frequency for land mobile use.

The Staff Report'srecommendation is the UHF TV broadcast band (channels 21-69, 512-806 mHz.). Reallocating the channels now available for assignment to UHF stations (or new Low Power TV stations) would create many procedural problems, to say the least. But many UHF TV channels are presently unassignable because of intermodulation or image interference with other TV stations, those existing or available for future assignment. These 6 mHz channels could be used for many lower power uses, such as Fixed service or Land Mobile use. The only disadvantage is that some scales of economy in the manufacturing of equipment would be lost, since different bands would be available in different areas. This could lead to higher cost.

The basic principle of sharing between different types of services has already been proven, as demonstrated by the use of the 470-512 mHz band (TV channels 14-20) for land mobile use in the ten largest urban areas of the country. This sharing is highly structured, though. Protection is given to UHF TV stations in the areas and strict rules govern land mobile use, power, frequencies, area of operation,etc.

In a decentralized scheme the only criteria taken into consideration is interference to other stations. The Staff Report recommends predicted signal strength contours be plotted and operation be allowed that does not overlap the protected interference contour of another station. Contours would be calculated using only fixed stations. Land mobile use is of a transient nature and can pose problems, but in view of their relatively small power the Report suggests that their interference potential may be disregarded. In making actual assignments they recommend that mobile emitters be permitted on a secondary basis, where cases of interference caused by a mobile unit would be that licensees responsibility to resolve. Minimum mileage separation or power output limits could be established, as is done

in T-band, but this severely limits the users options. A licensee could elect to offer a number of different services, land mobile, paging, maybe point-to-point. In these cases, the signal contour would be the aggregate field strengths of all the transmitters.

A regulatory scheme would have to be introduced that clearly defines the responsibilities of interfering licensees. Since fixed stations would only be licensed where they would not cause interference, if any such interference occured it would be that users problem. Likewise, since mobile use would be on a secondary basis, that licensee must resolve any problem. Such resolution is not so clear-cut even now, under our present regulated system. There are a number of cases of interference by broadcasters on TV channels 14 (470-476 mHz) and 69 (800-806) to land mobile users in the adjacent (460 and 806 mHz) bands. Both users, of course, are operating entirely within the limits of their respective services.

The main advantage to this whole idea is the concept of flexibility. Spectrum that would not (or could not) be used otherwise could be put to alternative uses. New technologies (such as amplitude compandored sideband) could easily be introduced in such a new service, creating even greater efficiency. Also, an entrepeneur could elect to offer multiple services, fixed data transmission services for businesses during the day and low power pay TV service in the evening, as an example. The possibilities are endless and the incentive is for the licensee to develop the most efficient system, through whatever means or technology are available, since it is to his advantage.

The 1979 World Administrative Radio Conference allowed the use of the 512-806 mHz band for land mobile use on a secondary basis in this hemisphere, but the FCC has yet to propose amending its Rules to implement any such use. The Report ends with the recommendation that the Commission start a proceeding to explore the ideas presented therein. Whether these ideas ever see the light of day again in the near future is anyone's guess.

FEDERAL GOV'T and MILITARY

Send all Federal Government and Military frequencies (including those of military aircraft), radio system details, and related questions to:
Dennis Biagioli, 607 W. Pleasant Ave., Villa Park, IL 60181

Sensitive frequencies will not be published. Coast Guard material must go to the VHF Marine editor.

Hi! Here we are in sunny April, ready for Spring to do its thing. If you haven't already gotten up on the tower to repair the damage Old Man Winter inflicted, don't forget to ground those antennaes while you are up there!

Thoughts of Spring soon turn to thoughts of vacation. And, should you choose to visit Washington, DC, here is some information courtesy of JOE M. LEWIS (MD-015) to enjoy during your visit to our Federal City:

U.S. PARK POLICE

Ch. 1 -- 166.7250
Ch. 2 -- 166.9250 Main Dispatch
Ch. 3 -- 167.0750 Special Events
Ch. 4 -- 166.8500 Car-to-Car

UNIT DESIGNATORS

100's -- Downtown D.C.
200's -- George Washington Parkway
300's -- Rock Creek Parkway
400's -- Baltimore-Washington Parkway
500's -- Annacosta
600's -- Special Units

The next collection is from Kent Haycock (CA-SZ-004):

INSERT 4-PAGES, INCLUDING MAP

Army Corps of Engineers-Sacramento District

frequencies as listed on the radios:

	Xm	Rc
F1	163.4125	163.4125
F2	163.4750	163.4125
F3	163.4375	163.4375
F4	164.2000	163.4375

New Hogan Lake Channels:

channel	tone	frequency	tone frequency	
4	4	164.2000-163.4375	136.2	all call
4	3	164.2000-163.4375	123.0	Sacramento
4	2	164.2000-163.4375	114.8	mobile repeater
3	1	163.4375-163.4375	114,8	local

Sacramento district call numbers:

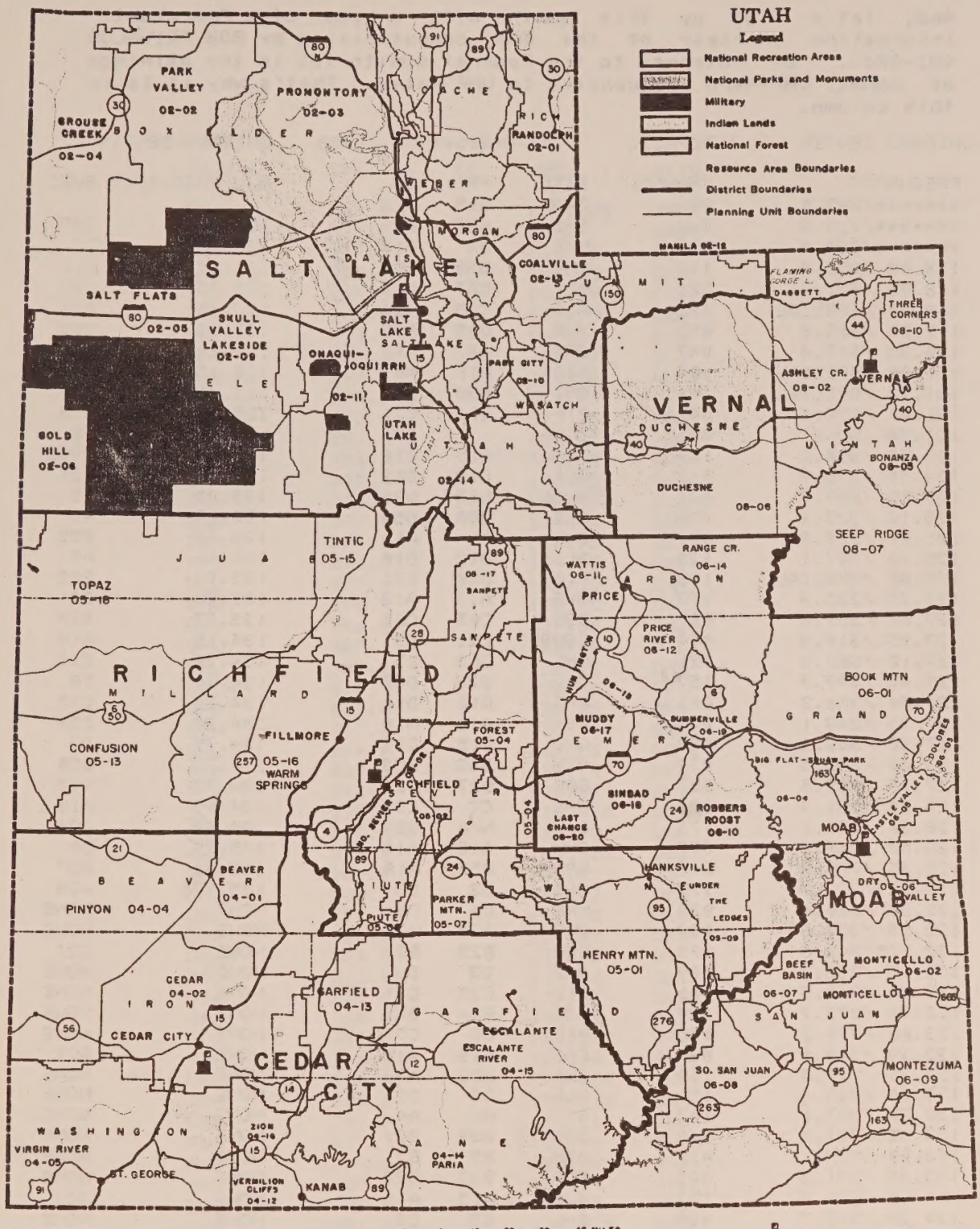
District office	3		
New Hogan	301	Terminus	372
Pine Flat	312	Stanislaus	384
Black Butte	340	Hensley	383
Isabella	370	Eastman	385
Success	371	Valley Resident	386
Martis Creek		Englebright	382
Mendocino		Sonoma	

FEDERAL INTERIOR DEPARTMENT SYSTEMS

NATIONAL PARK SERVICE

Cabrillo NM	simplex			171.500
Channel Islands NM	repeater	<172.400>		171.700
Death Valley NM	repeater	<169.550>		170.100
Golden Gate NRA	Park Police	<162.6125>	1	163.150
	simplex		2	163.150
	tactical		3	
	Park Service	<164.100>	1	164.800
	simplex		2	164.800
	Wolfback Rdg	<162.6125>		416.025
	satellite rcvr	<162.6125>		417.725
	satellite rcvr	<162.6125>		417.975
Joshua Tree NM	repeater	<172.675>		171.675
Lava Beds NM	repeater	<172.450>		171.750
Mount Lassen NP	repeater	<169.725>		170.075
Muir Woods NM	repeater	<164.100>		164.800
Pinnacles NM	repeater	<169.400>		170.050
Point Reyes NS	repeater	<169.400>	1	170.050 } 170.125
	simplex		2	170.050 }
Redwood NP	repeater	<164.425>		165.1625
SF Bay Wildlife Refuge	repeater	<164.100>		164.800
Santa Monica Mtns NRA				172.525
Sequoia-Kings Cyn NP	front country	<164.250>	1	164.750
	back country	<172.450>	2	171.750
		<172.500>		171.750
	Ash Mtn downlink			168.350
	Ash Mtn-Park Ridge control			166.875
	Park Ridge-back cntry link			173.7875
Whiskeytown Dam NRA	repeater	<164.425>		165.3125
Yosemite NP	Park Police	<172.025>	1	172.650
		<171.650>		172.650
	Park Service	<172.775>	2	171.800
	Yosemite Village			168.350

NM: National Monument NP: National Park
NRA: National Rec Area NS: National Seashore



168.975 Direct all Utah
168.475 Repeater-Salt Lake District

☆U.S. GOVERNMENT PRINTING OFFICE:1980—677-145 / 4

U.S. Forest Service Intermountain Region 4 Ogden, Utah

Ashley National Forest-Vernal, Utah	171.475 direct 172.225 repeater
Boise National Forest-Boise, Idaho	171.450 172.200
Bridger Teton National Forest-Jackson, Wyoming	169.125
Caribou National Forest-Pocatello, Idaho	171.475
Challis National Forest-Challis, Idaho	169.875
Dixie National Forest-Cedar City, Utah	171.550
Fishlake National Forest-Richfield, Utah	169.175
Humbolt National Forest-Elko, Nevada	171.475

(Listing concluded on page 34 - Ed.)

And, let's wind up this month with a copy of a FAA chart. Information courtesy of the FAA, computerizing by BOB TRIVALOS (WI-026). Of interest to the Federal monitorist is the pairings of normal VHF-Aero frequencies to UHF mates. That's why it is in this column.

CHICAGO CENTER AURORA,IL October 9,1983 CHICAGO CENTER

FREQUENCY	CHANNEL	SITE	PRI	SW	B/U FREQUENCY	BUEC
*******/243.0	002	ZAUA	B05	N/A		
*******/364.8	066	OHU	A27	A24	120.25	C57
*******/364.8	074	MKE	D2	A13	120.75	D5
118.05 /256.9	119	BMI	D30	D30	125.60	D11
118.75 /351.7	121	MLI	C57	C57	127.45	D33
118.90 /SPECIAL	105	ALO	C25	C25	127.45	D30
119.85 /362.3	053	FWA	B05	B05	127.50	D15
120.35 /317.4	047	ORD	A07	A07	128.20	A11
121.20 /SPECIAL	107	AZO	A10	A09	128.65	A07
121.35 /SPECIAL	101	CMI	D30	D31	128.65	B53
121.40 /354.1	043	OTM	C21	C21	128.65	A10
121.50 /NONE	001	ZAUA		B9	132.225	D3
123.75 /354.0	149	ZAUA	C15	C18	132.80	NONE
124.55 /398.9	063	BDF	C18	C19	132.80	C21
125.05 /284.7	031	QWCA	D33	D33	133.00	C5
125.10 /323.1	033	MKE	D50	D50	133.10	A1
125.20 /323.2	051	GYY	A1	A1	133.10	B55
125.60 /307.1	125	DLL	D12	D10	133.10	A4
125.80 /SPECIAL	103	PIA	D30	D31	133.90	B05
126.25 /285.4	079	MKG	A13	A13	133.90	B2
127.00 /351.8	009	DBQ	C05	C05	133.95	B29
127.05 /319.8	099	DSMB	C21	C21	134.15	A10
127.10 /380.3	021	OHL	D03	D5	134.20	C11
127.45 /397.9	157	DNV	D29	D30	134.20	C8
127.50 /306.3	091	OHZ	D12	D10	134.20	C15
127.55 /263.1	075	GSH	A10	A10	134.20	D20
127.60 /363.2	059	OHU	C15	C11	134.75	D6
127.80 /385.5	037	GYY	B53	B53	134.75	D50
127.95 /353.5	057	BDF	D27	D27	134.95	A13
128.05 /381.4	023	OHL	C8	C8	134.95	A13
128.20 /379.1	175	QJH	N/A	B53	135.40	A30
128.50 /269.6	077	PMM	A13	A13	135.55	D9
128.65 /298.9	045	ORD	B53	A18	135.60	D27
132.225/327.8	177	OHZ	D3	D3	135.975	A33
132.30 /360.6	035	MKE	D6	D6	NONE	NONE
132.50 /353.8	029	QWCA	A30	A30	NONE	NONE
132.725/343.6	095	DBQ	B23	B29	NONE	C21
132.75 /263.0	089	OHZ	D3	D3	NONE	NONE
132.80 /261.5	141	CID	C25	C21	NONE	NONE
132.95 /272.7	129	CGT	B54	B55	NONE	NONE
133.00 /379.2	135	RFD	C5	C5	NONE	NONE
133.20 /360.0	067	ORD	A18	A18	NONE	B29
133.35 /297.4	163	OHA	A33	A33	NONE	NONE
133.60 /269.4	151	DLL	D9	D9	NONE	NONE
133.70 /387.1	147	GYY	A4	A4	NONE	NONE
133.825/281.4	069	DBQ	B29	B29	NONE	NONE
133.90 /NONE	017	GSH	B5	B2	NONE	NONE
133.95 /291.6	005	BDF	B23	B23	NONE	NONE
134.15 /254.3	173	QJH	A13	A10	NONE	B26
134.20 /348.7	025	OHL	C8	C8	NONE	NONE
134.325/239.3	111	OHA	B24	B23	NONE	NONE
134.75 /291.7	131	MKE	D5	D6	NONE	NONE
134.95 /287.9	139	GRR	B14	B14	NONE	D27
135.275/285.5	011	DBQ	B29	B26	NONE	NONE
135.35 /273.6	137	SBN	A21	A21	NONE	B26
135.40 /377.2	115	QWCA	A30	A30	NONE	NONE
135.55 /343.9	093	OHZ	D9	D9	NONE	NONE
135.60 /316.1	143	BRL	C21	D27	TOWER/HOTLINE	
135.75 /338.3	061	OHU	C11	D20	TOWER/HOTLINE	
135.825/385.6	041	OHA	B26	B26	TOWER/HOTLINE	
135.90 /317.6	015	GSH	B51	B51	TOWER/HOTLINE	
135.975/381.6	109	RFD	A33	A33		

AURORA,IL October 9, 1983

SITE	UHF	TO	VHF	SITE
DNV	239.3		134.325	QHA
MLI	243.0		NONE	ZAUA
OGT	254.3		134.15	QJH
QHL	256.9		118.05	BMI
GYY	261.5		132.80	CID
ORD	263.0		132.75	QHZ
MKE	263.1		127.55	GSH
ORD	269.4		133.60	DLL
QHU	269.6		128.50	PMM
QHA	272.7		132.95	CGT
SBN	273.6		135.35	SBN
RFD	281.4		133.825	DBQ
BMI	284.7		125.05	QWCA
GYY	285.4		126.25	MKG
QHL	285.5		135.275	DBQ
DBQ	287.9		134.95	GRR
GSH	291.6		133.95	BDF
RFD	291.7		134.75	MKE
DLL	297.4		133.35	QHA
QHA	298.9		128.65	ORD
QHU	306.3		127.50	QHZ
QHU	307.1		125.60	DLL
BRL	307.2		120.25	QHL
QWCA	316.1		135.60	BRL
QHZ	317.4		120.35	ORD
QJH	317.6		135.90	GSH
QHL	319.8		127.05	DSMB
QTM	323.1		125.10	MKE
GYY	323.2		125.20	GYY
QJH	327.8		132.225	QHZ
GSH	338.3		135.75	QHU
QHU	343.6		132.725	DBQ
QHA	343.9		135.55	QHZ
QHZ	348.7		134.20	QHL
QHL	351.7		118.75	MLI
DBQ	351.8		127.00	DBQ
DSMB	353.5		127.95	BDF
GSHA	353.8		132.50	QWCA
QJH	354.0		123.75	ZAUA
GRR	360.6		132.30	MKE
DLL	360.8		133.20	ORD
GSH	363.2		127.60	QHU
MKE	364.8		MKE-074	MKE
QHA	364.8		QHU-066	QHU
ORD	371.9		133.50	QHU
FWA	377.2		135.40	QWCA
MKE	379.1		128.20	QJH
MKE	380.3		127.10	QHL
DBQ	381.4		128.05	QHL
MKG	381.6		135.975	RFD
PMM	385.5		127.80	GYY
DBQ	385.6		135.825	QHA
QWCA	387.1		133.70	GYY
QHA	397.9		127.45	DNV
QHZ				
QHZ				
QWCA				
BDF				
BMI				
GYY				

Federal Govt/Military continued

Manti LaSal National Forest-Price, Utah	169.875	
Payette National Forest-McCall, Idaho	169.900	east
	171.550	west
Salmon National Forest-Salmon, Idaho	171.600	
Sawtiith National Forest-Twin Falls, Idaho	162.025	
Targhee National Forest-St. Anthony, Idaho	169.175	
Toiyabe National Forest-Reno, Nevada	169.875	1
	170.475	2
	169.900	fire net
Uinta National Forest-Provo, Utah	171.575	1 direct
	172.375	2 Currant Pk, Brad Mnt, W. Mnt, Boot Mnt, repeaters

Wasatch-Cache National Forest-Salt Lake City, Utah

164.975	1 direct
166.575	2 Liz Pk, Bald Mnt, Fran Pk repeaters
164.125	3 Little Mnt, Red Spr, repeaters
164.825	4 car to car
168.775	fire radios

Region 4 Service Net 164.400

Hope you have a safe and healthy month. Until next time.....

73's,

Kenny

International

This column is for reporting two-way communications frequencies above 30 MHz, radio system details, monitoring experiences, and any other information relating to monitoring in countries other than the United States and Canada. Send to: Rickey Stein, 456 Barrymore Place, North Brunswick, NJ 08902.

It seems as though I just finished typing last month's column and here it is time again for a new column. Well, at least the mailman's been good to me. I have quite a bit of information and I will presenting it all to you over the next several months. Included in this material will be information about the United Kingdom, Ireland, and a very detailled picture of frequency use in Sweden. I also hope to have additional Mexican iformation from our Low Band Skip editor, Mike Britt. Mike has been south of the border for more than a month with his trusty BC-210 and he is promising some updates and corrections on previously printed frequency information.

First, let's start off with some comments about radio in the Republic of Ireland. The writer states:

As we have nothing comparable to the "Freedom of Information Act", (I'm beginning to doubt if we do either! ed/), it is impossible to get any official information regarding frequencies. So everything has to be painstakingly worked out from scratch. In general, we follow the British practice, so that by assuming the paired frequency differences are the same, we get a starting point. I have found that the UHF and VHF High are pretty much the same, but there is no similarity in the VHF Low. Also, unlike the British, we don't seem to allocate discrete frequency bands to services. The only place where an entire section is given to a single service is 70.9500-71.9500 which is used by the Electricity Supply Board. This is a statewide undertaking and all frequencies (at 25 KHz spacing) are simplex. The majority of working in FM, but there are a number of AM operators. The police operation is hybrid- the up/down repeater links together with personal w/t's are FM two-channel simplex. The repeaters to/from mobiles are single channel simplex AM.

Roughly, the band scheme is as follows:

68-70	:not known (odds and sods)(sic!)
71	: Electricity Supply Board (single chan. simplex)
72-78	: Mobiles (paired with 82-88)
79-82	: not known (again as with 68-70)
82-88	: Fixed bases (paired with 72-88)
153	: Tone paging
158-162	: Mobiles (two channel simplex)
162-170	: Bases (two channel simplex)
171-174	: Mobiles (two channel simplex)
450-461	: Bases, up-links to repeaters
461-469	: Mobiles, down-links from rp to base

The cordless phone position is completely out of hand. At first, we only had those operating at the top of the 49MHz band, but they then spread out into the entire 49MHz band. A friend with a Bearcat can monitor that range quite easily.He located the paired frequency in either 146 or 154 MHz, though I have never heard them there. Perhaps this is one of those Bearcat i.f. oddities? (Any ideas?). I can find a number of cordless phones now in the 68/69/70 range. I think some of these are images, but a friend has found them operating in the 71MHz frequency band and has actually spoken to them, so perhaps they could actually be on 68-71.

More to come on Ireland in future months.

Some comments from a writer in the UK on earlier Newsletter entries. He writes:

In this country, and in all others I am aware of, frequency planning is done by a national authority. Each band is divided into subbands for various services, and then a set of frequencies is allocated or shared with a user organization or company. This is much the same as in the U.S.

In the future, cellular radio will be introduced in the UK on a UHF band, and VHF television will be closed down on 1st Jan, 1985 to allow the 41-68MHz band to be used for land mobiles. Probably, the first users will be the police who, being in the 97.6-102.1MHz band, had their frequencies given over to broadcasting.

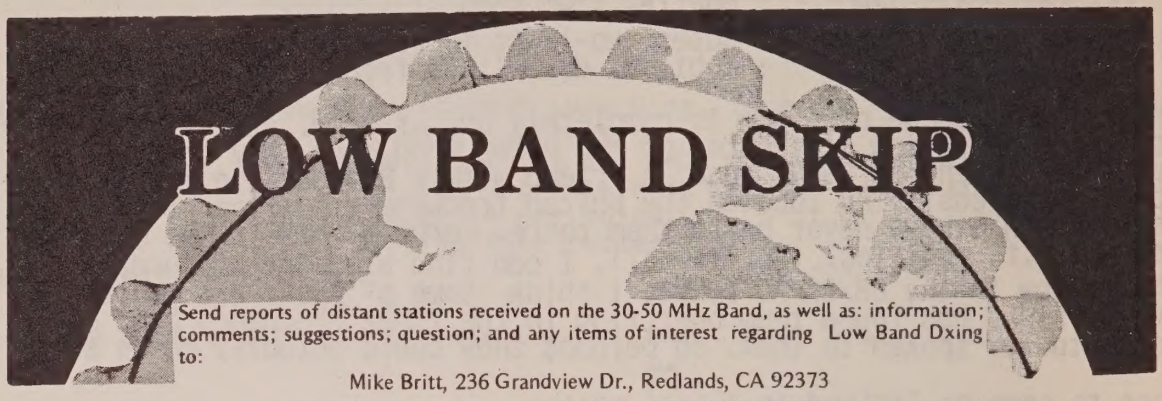
The allocations are different in each European country. Italy is opening 52-68MHz to private mobile radio. Broadcasting and aeronautical frequencies will be much the same in all the countries, and this also applies to Amateurs (e.g. 144-146 and 430-440 MHz in the U.K.). In the Netherlands, 400-412 is used for military small planes and helicopters and 412-430 is for many types of comms.

One unusual band is 225-400MHz, a.m., with 25kHz channels for military aircraft and navies of the world. In the Jane's Military Communications-1983 (which is over twice the size of the 1979/80 edition), many more deatils are given especially for HF equipment. Generally the military use general coverage radios covering 30-76MHz in 25kHz channels with 5kHz deviation and 150hZ tone operated squelch. The extended band is 26-76 or 30-88MHz in some equipment. Although the U.K. uses 12.5 and 25MHz channels, the West Germans use 20MHz channels in lowband and highband for their police, I think, but 25MHz is also used. There is also a 40MHz mobile band there.

And finally, some general observations about monitoring in Sweden:

It is completely legal to listen to all communications.
You must not divulge any communications monitored.
You can not obtain frequency information from the televerket (Swedish FCC) But you can get this information from almost every store in the radio business.
Scanner listening is very popular, but many listeners do this only to avoid speed controls.
To fully cover communications in Sweden, you need a radio with coverage in the 68-88MHz band.
Police, fire and other rescue traffic is often simplex with low power (10-20 w), so an outside antenna is a big help.

Well, there's an interesting selection of European information. Much more to come in the next several months. However, I cannot offer information to you that I do not have. So I will again appeal to any member who has been travelling with a radio to please come forward and submit info to me and to the other editors. Your participation is needed to keep this organization vibrant and growing. Let's hear from you. This should appear in April's Newsletter, so to all the membership, I wish you a Very Happy Easter and פסח שמח וכשר


LOW BAND SKIP
Send reports of distant stations received on the 30-50 MHz Band, as well as: information; comments; suggestions; question; and any items of interest regarding Low Band Dxing to:
Mike Britt, 236 Grandview Dr., Redlands, CA 92373

Greetings!

As of this writing I am just back from Mexico - where I had a wonderful time. While there, I had a scanner along, and I was lucky enough to catch some skip! More on that later.

My apologies to those of you who have sent material and/or questions and have yet to see it published or hear from me. I'm slowly wading through piles of mail, and hopefully will be caught up in a few weeks. Now that I'm back in the U.S., I promise I will get to all of your mail eventually. Please bear with me!

THE MISSING COLUMN DEPARTMENT

(Editor's note: Among the mail waiting for me upon my return from Mexico was the package containing my column for last month's newsletter. It had been returned postage due - which means somewhere along the line the 60 cents worth of postage I had affixed somehow disappeared. This greatly irked me, especially since some of this material is aging longer than some wines do. Never-the-less, I'm going to recycle it all through as fast as I can).

WHERE HAS ALL THE SKIP GONE?

...And What Can We Expect in the Future?

Many of you are probably aware that this winter had the least amount of skip since the years prior to the peak of the current sunspot cycle which occurred in 1979-80. There were a few days of fair propagation activity in November and December of 1983, but otherwise the skip was poor to non-existant this last winter. The skip was usually limited to below 33 MHz -not even in the range of some scanners.

I'm afraid the forecast for this coming winter's F_2 skip is just as bleak. It looks like the activity will continue to diminish, with only minimal activity for the next couple of years. There should be that occasional burst of propagation now and again, but the activity will not be as strong nor will the Maximum Usable Frequency be as high as it has for the past few winter F_2 seasons.

The current 11-year sunspot cycle began in 1976 and peaked in the winter of 1979-1980. The F_2 skip (named for the uppermost layer of the earth's atmousphere, in which this kind of skip occurs) which occurred during the "winter" season (actually from about August to April) of each following year remained quite good until this winter. While the last three winters had several weeks of good skip, a severe drop off in the activity occurred this winter.

In reality, the level of sunspot activity (directly linked to the level of F_2 skip activity) has been on the decline since 1980, however, an unusal pattern of continued peaking occurred up until last Spring. While solar flares were on an overall decline, bursts of high level activity continued to occur every few days. That unprecedented continuance of the skip has now ceased, however, and the

activity is expected to remain minimal (or nonexistant). The next three to four years will have very little F_2 skip, with the activity bottoming out in 1986-87, when we will move into a new sunspot cycle.

If the pattern of previous cycles is any indication, solar activity and skip should begin to increase with the new sunspot cycle, and the years 1988-89 should have skip activity equal or greater to that of 1981-83. After that, the skip should increase rapidly, with a cycle peak forecast for 1990.

In the meantime, Es and Transequatorial propagation should continue to provide good listening (when they occur, that is). As I write this - in the first week of February - I'm still hearing the Argentina pagers on 32 and 35 MHz. It is quite common to hear these nearly all year round if you live in the region of North America which is located the same distance north of the equator as Argentina is located south of the equator - especially around 35 degrees latitude, where Buenos Aires lies. If you are in the southern half of the U.S. you might still be able to receive these even in March and April - try it. The frequencies are: 32.68, 32.82, 32.96; 35.08, 35.22, 35.28, and 35.32. If you're real lucky, you might pull in 37.62 MHz as well. The best time to try is late afternoon. Try around 2 and 4 p.m. in the central time zone. If you do hear these at this time of the year, please drop me a note (we're still trying to figure out just how transequatorial skip

There is still hope for hearing some F_2 skip in the next few years, but you will probably need to concentrate below 30 MHz. If your scanner is capable, there is some use of FM in various world localities in the 10 meter band - the frequencies between Citizens Band and the beginning of the VHF spectrum. As this is actually HF, AM is most often found in use, and so dxing between 27 and 30 MHz is most appropriate with an AM receiver. The frequencies between 27 and 30 MHz a are actually close enough to the low edge of the VHF spectrum theat they often share many of the propagation characterists common to the VHF Lo Band, Thus, the hearing of "skip" in the 10 meter band is an actual possibility.

FROM U.S. FORCES IN WEST GERMANY

From John (MD-006), now of Tampa, Fla., comes this info. about the skip reported by Geoff (ENGL-005) in the Nov.'83 LBS column. Apparently, Geoff was not hearing the U.S. that time as we first believed, but instead he was hearing U.S. military from W. Germany. John says:

"During the years 1969-1972 I was the Nuerenberg, Germany news bureau chief for THE STARS AND STRIPES newspaper. At that time (and I believe it is still current) all Army military police (American, that is) who performed routine police-type patrols, used 39.700mHz as their primary radio frequency. As a point of information, there are U.S.Army patrols by military police over a very large portion of West Germany.

"In further support of this point, the identifications cited by Geoff are typical of Army MP's: MPI is the common identifier for Military Police Investigator, while DS (usually known as Delta Sierra) refers to the Desk Sergeant who, at the mp station, acts much like a patrol shift supervisor.

"Based on location, I think it is likely that a monitor in England is much more likely to receive these transmissions from West Germany than from the U.S.."

Supporting this information from John, a list of U.S. military low band aasignments shows the following on 39.70:

Berchtesgaben Army Heliport, West Germany - MPs; 'Dynamic Fragile'
Boebligen Army Heliport, W. Germany - MPs; "Musketeer'
Garmisch Army Heliport - MPs; 'Diplomat'
Patch Barracks Army Heliport, W. Germany - MPs; 'Big Top'

No doubt one or all of these were heard by Geoff in England.

THE PERFECT SKIP SCANNER?

*Geoff (ENGL-005) sent info. about the new AR2001 receiver now available in the U.K. from AOR. (Refer to RCMA Feb..84, International, p.41 for photo and details). This receiver--according to a flyer from Lowe Electronics Limited, of Derbyshire, England---is "the first truely general coverage VHF/UHF monitor receiver" covering 25 -550 MHz with no gaps. In addition, as Geoff points out, the unit is capable of capable of AM, FM wide band, and FM narrow band on any frequency! You can select any mode, independent of the band.

Both Geoff and I are anxious to hear user reports on this one. Apparently, AOR is a Japanese company, but I've yet to hear word of the AR2001 being available in North America.

While not one to give free advertising, I'm going to give an address here, since none appeared with the info. in Ricky Stein's column. Geoff says the first units were expected in March. You may be able to get more info. on the AR2001 by writing:

Lowe Electronics Limited
Chesterfield Road, Matlock, Derbyshire, DE4 5LE, England

If anyone else has more info. or has heard more about the AR2001, please write and let me know. If the sensitivity of the receiver is as good as they claim, this would be the ideal unit for DXing skip (if there was any skip left to DX!). At it's high point, skip has been found up to 100 MHz (no, not for several years) and also, we have found AM, FM narrow band, and FM wide band in use all over the VHF low spectrum. We needed this scanner long ago!

RECEPTION REPORTS

*From George (OR-001) All Bearcat 250,Hy-gain tri-band; except below 32Mhz: FRG-7.

11/05/83	09:22PST	33.06		Washington D.C. -EMS
	09:30	33.70	KUE698	Montgomery Co., PA
	09:30	33.70	KGD869	Somerset, PA
	09:57	33.78	KRO266	Lacey Twp, NJ
	10:00	33.54	KCE577	Ashfield, MA
	10:06	33.70	KNGB271	
	10:29	33.86	KDB441	Harrison Twp, PA
	10:48	33.90	RKQI316	Hamilton Co.,OH
	11:33	35.16	RKGZ537	"Shreveport Base", LA. -S.Central Bell
	11:50	37.62	Spanish: Argentina Pager	
	12:04	33.70	KAW410	W.Newton, PA
11/06/83	10:59PST	33.80	KGC676	Washington Co., Hagerstown, MD
	11:01	33.94	KXQ768	Smithfield, OH
	12:00	33.78	KDQ324	Lavalle, NJ
	12:05	35.50		Philidelphia, PA mobile tel.
	12:59	33.78	KTU669	Wrightville, PA (licensed 33.98)
	13:02	33.94	KDS620	Clearmont, OH
	13:30	33.90	KCD463	Milford, NH (callsign for 37.1)

+ (George notes that at 14:00 all was dead except for thelower 33 MHz petroleum freq.s. At 15:30, CW was heard on 33.74 - which both George and I know has to be that station from the Phillipines that we've heard in the past. Skip from the Pacific hits the west coast of the U.S. late in the afternoon).

11/12/83	10:47PST	33.90	KCP423	Houston, Tx
	11:07	33.18	KKL486	Rowkin, TX - Northern Nat. Gas
11/20/83	12:00PST	33.96	KCH209	Waterford, CT
	"	33.68	KCA695	Manchester, NH
	"	33.74	KIU867	"...Harrisonberg, VA"
	"	33.78	KGC522	Georgetown, DE
11/24/83	11:29PST	33.78	KEG669	Middlefield, MD (callsign for VHFHI)
	11:30	33.90	KBZ283	Gilford, NH (Ed note: Lakes Region)
	"	33.70	WYR629	Westmoreland Co., PA
	11:34	33.58	KCC532	Plainville, CT
	11:36	33.54	KCE358	Franklin Co, MA "358"
	11:38	35.22		(This was a pager, relaying Pittsburg NOAA weather 162.55. Probably: KGA805, Airsignal)
	13:53	33.32		"Morgan city" Prob. KEY430, Morgan City, LA
11/26/83	12:13PST	30.62	KKQ416	Bay City, TX- Townsend Lease Service

Low Band Skip continued

	12:21	30.78	KAR992 "Cameron Base", LA - Chevron Oil
	12:35	31.06	KKD758 New Orleans , LA - State of LA
	12:36	"	KRY447 ? (Prob. LA -expired?)
	12:38	31.10	K?I468 Prob. GA state parks (GA and MO only
	12:40	"	KAB9?3 licenses on 31.1)
	12:45	31.35	Spanish Paging (Argentina?)
11/27/83	12:30+	31.11	strange telemetry tones; sounded like an electronic organ
	13:18	31.10	KRR370 Positive of call sign -but not listed. Must be expired. State of GA?

George noted that the highest MUF on 11/27 was 33.36. He says: "Things are really going down hill. On 11/26 there was a breif 37.06 Texas registrations (it was a PD), but no positive ID. Highest domestic MUF in months." You said it George! The skip this winter turned out to be a real dissapointment.

*From David (OH-146); received using a Bearcat 250 with a Winn-Tenna DX40 mounted 18 feet up; and a Regency MX3000 with a Kaytownes EXP1640 mounted just below the DX40. All received in Springfield,Oh.

33.960	WQL 690	1/7/84	1119 EST Groton, CN - pager test. sent for QSL, not rec'd.
33.620	KQB 744	1/7/84	1205 EST Sutton, MA - pager test. Received QSL
37.900	KKV 480	1/7/84	1232 EST(1132CST) Springtown, TX - grass fire. Rec'd QSL
33.900	KCC 350	1/7/84	1318 EST East Bridgewater, MA
33.660	KCF 307	1/7/84	1320 EST Tewksbury, MA
33.700	KCH 954	1/12/84	1200 EST Can not identify - not on microfiche
?	KDI 744	1/12/84	1201 EST Can not identify - not on microfiche

Also, twice I have received reception from the state of Michigan that is very abnormal on high band.

154.400 KML 294 12/12/83 2351 EST Casco Twp, Alligan County, Michigan - chimney fire Received QSL. This station is licensed to operate on 153.890. I can not explain why I received them on 154.400. They did verify my reception report.

Both of these are at a distance of about 300 miles straight line. I was quite surprised to get such reception on hi band

154.205 KXZ 352 1/12/84 1712 EST Covert Twp, Van Buren County, MI - recorded station ID

(David's Hi-band receptions are no doubt the result of Tropospheric skip, or "inversion layer ducting" which is not uncommon on higher frequencies when an inversion condition exists in the atmousphere. I have no explanation for why 154.4 would be heard on 153.89, unless there is a repeater involved somewhere along the line, or perhaps this was an image on one of David's scanners.

MAPLE LEAF PAGING

From Larry (MI-001) comes some info. about the frequency of 32.42, on which both Chuck (IL-141) and myself were hearing Canadian pagers this winter. Any or all of these stations could be paging --the Canadian microfiche doesn't indicate the type of operation. The hospitals seem a very likely source, however. Here in California, I was probably hearing skip from the eastern provinces, while Chuck in Illinois was receiving skip from the West.

32.42	XKD-321	VANCOUVER, B.C.	ST. PAULS HOSPITAL
32.42	XKE-771	RICHMOND, B.C.	RICHMOND GENERAL HOSPITAL
32.42	XKC-259	CALGARY, ALBERTA	UNIV. OF CALGARY
32.42	XKC-791	CALGARY, ALBERTA	CANADA POST OFFICE
32.42	XNW-335	CALGARY, ALBERTA	DELTA HOTELS LTD.
32.42	XKC-790	EDMONTON, ALBERTA	CANADA POST OFFICE
32.42	XKD-274	EDMONTON, ALBERTA	CANADA PACKERS [GRAIN DIV.]
32.42	XNS-911	EDMONTON, ALBERTA	TERRACE CORP. LTD.

Low Band Skip continued

32.42	XKC-537	LETHBRIDGE, ALBERTA	LETHBRIDGE COMMUNITY COLLEGE
32.42	XKD-247	THOMPSON, ALBERTA	THOMPSON GENERAL HOSPITAL
32.42	KXD-634	REGINA, SASK.	THE PLAINS HOTEL LTD.
32.42	XKD-793	PETERROROUGH, ONT.	QUAKER OATS OF CANADA LTD.
32.42	VCW-687	STURGEON FALLS, ONT.	ST. JEAN DE BREBEUF HOSPITAL
32.42	XKC-271	THUNDER BAY, ONT.	GREAT LAKES FOREST PROD. LTD.
32.42	XKC-557	TORONTO, ONTARIO	WOMENS COLLEGE HOSPITAL
32.42	XKD-30	TORONTO, ONTARIO	ART GALLERY OF ONTARIO
32.42	XKC-947	MONTREAL, QUEBEC	QUEEN ELIZABETH HOSPITAL

Marketplace

Gary M. Darcy, Editor

Members may advertise, free of charge, items wanted, items for sale, and items for trade that are associated with the hobby of monitor/utility radio listening. No dealer ads will be accepted for this column. RCMA assumes no responsibility for the outcome of any transactions between members resulting from ads printed in this column. Send to:

RCMA MARKETPLACE, c/o Gary M. Darcy, P.O. Box 1329, Palmdale, CA 93550.

Please be sure to include your membership number.

All Marketplace ads will be accepted ONLY on special forms available from this column's editor. Send a self-addressed STAMPED envelope (business size) to the address above to receive a supply of forms. Foreign members do not need to include postage on envelopes they send.

WANTED: Want to buy recent microfiche sheets for transmitter state index; either a set or sheets with Kansas listings. Contact: DON GRUVER (KS-010), Cedar Ridge #54, Hays, KS 67601 or phone 913-625-7115. No collect calls, please. (1-6-84)

WANTED: Bearcat 4-6 Thin Scan. New only, please. With carrying case; rubber ducky antenna, etc. Contact: E. MENCZER (NY-228), 555 Bedford Ave., Brooklyn, NY 11211. (1-19-84)

FOR SALE: MFJ-308 World Explorer II Car-Shortwave radio converter, w/manual. $60.00. Also, MFJ-1020 Indoor active SW antenna w/AC adapter. $50.00. Contact: STEVEN J. HANDLER (IL-001), 666 Dundee Rd., Suite 502, Northbrook, IL 60062 or phone 312-272-5115. (1-20-84)

FOR SALE: Bearcat BC-100. Including AC adapter minus connector, also 3 antennas. $225.00. Also, Bearcat BC-300. Includes antenna & AC power cord. $250.00. Will pay shipping for both. Contact: GERALD EDER (IL-252), 1254 Aspen Ln., Elk Grove, IL 60007. (1-19-84)

FOR SALE: Bearcat 160. Excellent condition. $120.00. Contact: FRED MILLER (CA-LA-007), 24007 Fernlake Dr., Harbor City, CA 90710 or phone 213-534-2979. (1-29-84)

FOR SALE: Japan Radio Co. NRD-505. Includes receiver, NRD505SPKR, NRD505 memory, CW filter, ANZAK preamp, HAL-RS-2100, Hitachi VM910AU monitor, Infotech M200F, Dymek DA100 antenna, Datong FL3-All in mint condition. $3,600.00 plus shipping. Contact: STEPHEN H. FRIEDMAN (NY-201), 333 East 46th St., New York, NY 10017 or phone 212-490-3919. (1-17-84)

For Sale: Pace 308. (Very rare model.) This unit is in excellent shape, in the box, manual, mobil brackets, ETC. Has 8 to 10 10.8 crystals. VHF Hi/UHF. $100.00 firm. Will ship UPS. Contact: BOB ABDIZADEH (MO-034), 5012 Pemberton Ln., Colony, TX 75056. (1-15-84)

FOR SALE: Regency scanner crystals. SASE for list of available frequencies. $3.00 each. Contact: MARK A. THOMAS (VA-051), 12163 Nokesville Rd., Bristow, VA 22013 or phone 703-594-2333. (1-10-84)

WANTED: Service manual for Tennelec MS-2 Memoryscan 16 channel scanner. Contact: Marketplace Editor. (1-30-84)

FOR SALE: Bearcat BC-100. Excellent condition; includes all accessories. Will ship UPS prepaid. $175.00. Contact: LEWIS S. HARVEY (GA-008), 8000 Waters Ave., Apt. 11, Savannah, GA 31406. (1-10-84)

FOR SALE: Grove CVR-1A Scanverter (200-400 mhz). Unit with power cube & cables; new condition. $80.00. Contact: GREG DANES (VA-056), 6621 Wakefield Dr., Alexandria, VA 22307 or phone 703-765-5517. (1-18-84)

FOR SALE OR TRADE: Bearcat 100. $250.00 or trade for base unit. Contact: AL GREENMAN (NY-032), 2150-72 St., Brooklyn, NY 11204 or phone 212-256-4629. (1-18-84)

FOR SALE: Magnavox ARC 109 (RT-749/ARC-109). Unit is complete, ready to run, works on 110 VAC, excellent condition, 220-400 mhz receiver. $400.00. Contact: BRUCE D. STEWART (AZ-040), 1860 N. Camino de la Cienega, Tucson, AZ 85715 or phone 602-886-7181. (1-30-84)

FOR SALE: Rauland-Borg Corp. R-482C/URR-35. Unit is complete, excellent condition, 220-400 Mhz receiver. $125.00. Contact: BRUCE D. STEWART (AZ-040), 1860 N. Camino de la Cienega, Tucson, AZ 85715 or phone 602-886-7181. (1-30-84)

FOR SALE: Bearcat BC Two-Four Thin Scan. Unit is in excellent condition, receives 118-136/450-470, 4 channel crystal, comes w/AC adapter & 8 crystals, price includes shipping. $75.00. Contact: BRUCE D. STEWART (AZ-040), 1860 N. Camino de la Cienega, Tucson, AZ 85715 or phone 602-886-7181. (1-30-84)

FOR SALE: Realistic crystals for the following frequencies: 453.650 / 453.750 / 453.300 / 46.20 / 460.025. Will also work on Regency & Craig Scanners. $2.00 each. Contact: FRED SHEEHAN (PA-189), 12 Kern St., Collingdale, PA 19023 or phone 215-237-9033. No collect calls. (1-15-84)

FOR SALE: Bearcat 101. Needs scan/manual switch, otherwise works well and is in good shape. Will trade for BC 210 or other scanner in good working condition. $90.00. Contact: FRED SHEEHAN (PA-189), 12 Kern St., Collingdale, PA 19023 or phone 215-237-9033. No collect calls. (1-15-84)

FOR SALE: Midland 13-950. 16 channel, 8 hi/lo, 8 UHF. Will consider trade. 2 antennas included; AC/DC power. $95.00. Contact: FRED SHEEHAN (PA-189), 12 Kern St., Collingdale, PA 19023 or phone 215-237-9033. No collect calls. (1-15-84)

photo department

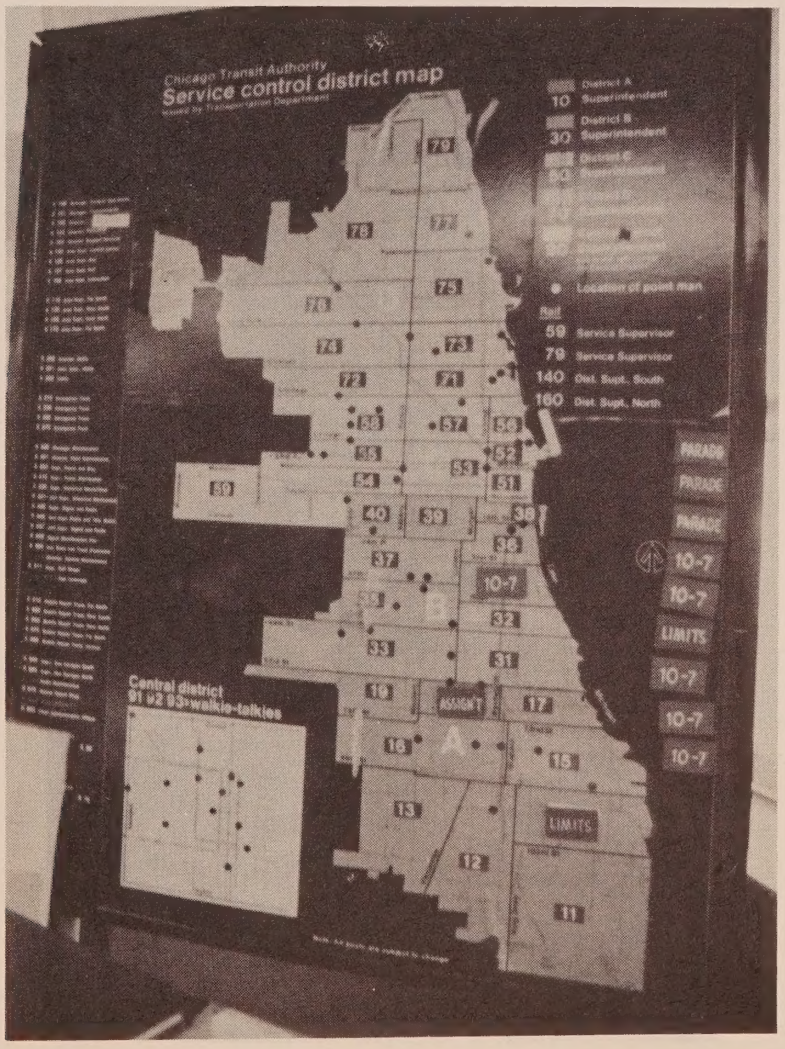
Send photographs of custom monitor listening posts, unusual or extensive monitor or two-way antenna systems, user station consoles (PD, Fire, Paramedics, etc.) or other monitor/two-way related equipment of interest. Photographs must be 3 x 5 inches or larger, black-and-white with good contrast, sharply focused and attractively composed. Each photo must be accompanied by details and explanations of equipment. Photos will not be returned. If you have questions, write first and please include an SASE. Send photos or write to:

Hugh Stegman, 11622 Exposition Blvd., #2, Los Angeles, CA 90064

This month we finish up the batch of photos from Ed Sirovy (IL-004). These show the comm center and control points maintained by the huge Chicago Transit Authority, which operates buses, elevated trains, and subways. After Chicago PD, this is the most elaborate setup in town.

Our wide view shows the three major systems, jammed in together. Note the old-style message conveyor just behind the phone positions. The Motorola consoles just behind are for the bus system. Behind this is the second setup's back side. This is a new control center for the rail transit. Way in the rear, and to the left, is the control point for rail electric power (600 volts DC). Note that quite a bit is new.

The next two shots show the bus supervisory console and a dispatch position, with some RCMA members looking them over. Buses use CAD, voice, and a VHF "signpost" system. Whenever a bus passes one of 600 "signpost" transmitters, its VHF receiver updates a digital signal which can then be interrogated by computer or hand to tell where the bus is. Whenever the UHF voice radio, or the silent alarm, are keyed, this data is also sent. Readouts and keypad interrogation inputs are at the far right of the supervisory desk, and at left on the other. A wall map (shown) displays the status of bus supervisors.


Chicago Transit Authority
Service control district map
Issued by Transportation Department
District A
10 Superintendent
District B
30 Superintendent
Location of patrol man
Rail
59 Service Supervisor
79 Service Supervisor
140 Dist. Supt., South
160 Dist. Supt., North
Central district
91 92 93 walkie-talkies
PARADE
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10-7
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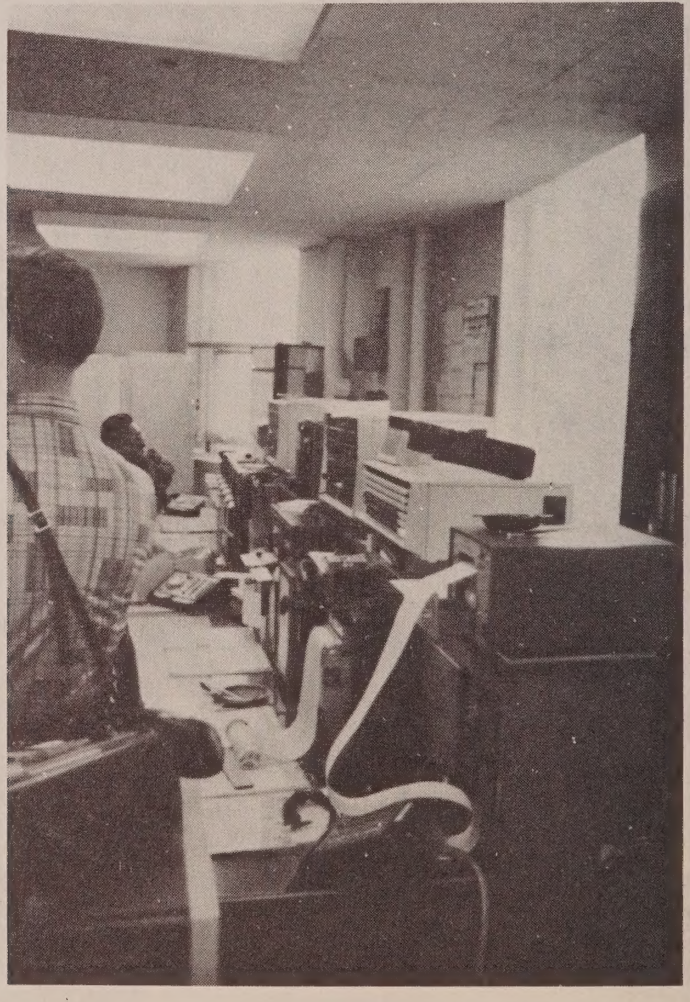


PUBLIC SAFETY SOUTHEAST READER SURVEY

Future columns will be directed where there is member interest. Please take a minute to answer the ten questions listed below so that the next 12 articles of the Public Safety Southeast can be of interest to you, the active member! Answer the questions, omitting your name and ID number if you so desire, and mail to the editor of Public Safety Southeast: Capt. Bill Mauldin, 2268 N.W. 30th Road, Boca Raton, Florida 33431. Do it today! Thank you!

1. List the make and model number of the scanner(s) or monitors that you use.

2. List the frequencies and assignments of what you monitor on a regular basis.

3. List the frequencies and assignments of what you sometimes monitor.

4. What percentage of your time is spent monitoring (A) at work, (B) at home, (C) mobile?

5. List the departments that you would like to see covered in upcoming editions.

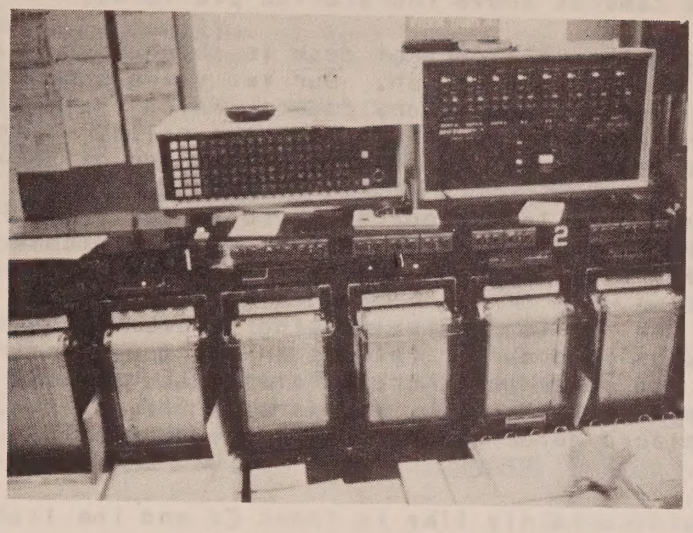
6. Do you think editors should cover a department completely or just print updates?

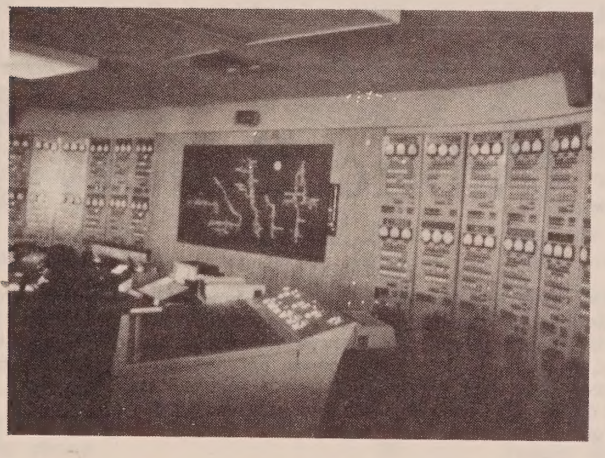
7. Do you keep a personal frequency notebook and/or past RCMA editions?

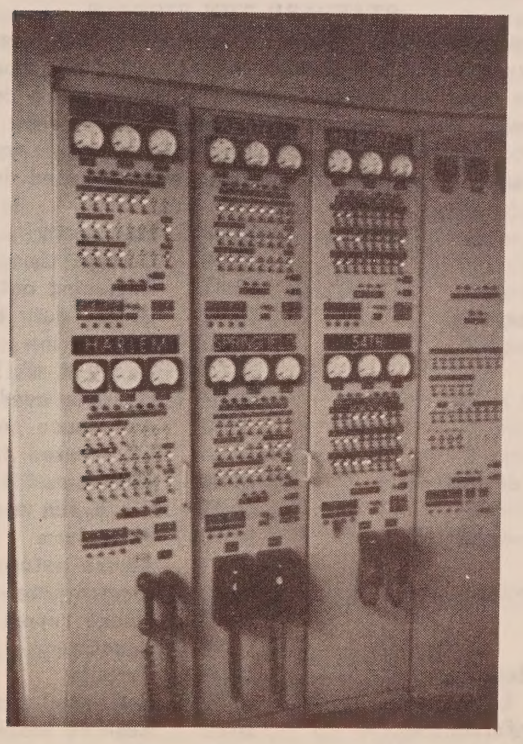
8. IF you keep past RCMA Newletters, what is your oldest copy?

9. Do you plan to buy a new scanner, and if so, what and when?

10. What can the editors do to improve our club publication?







The next picture after the map shows the RCMA gang in the rail dispatch area. The overhead TV monitors are a tap off of Chicago PD's surveillance cameras above the station platforms.

Ed states that the rail control desk is shoehorned in amid some posts, and thus is hard to photograph. Our two views show the new Motorola consolettes for UHF supervisory radios, which replace an old system using 500 KHz carrier-current through the rails. Another old system on 44.54 MHz is now used for remote activation of snow melters.

The left consolette in the bottom photo is for voice PA systems on the station platforms. Below are chart recorders which keep track of the positions of trains, using a system of sensors in the rails.

Finally, we see the impressive-looking remote control panel for rail power. Ed says to consider this as an enormous electric train set, except that the power packs are substations every few miles. Also controlled are lights, pumps, and fans in the subways. Solid state gear has replaced motor-generators in the substations, and control is by wireline.

Whew! I would certainly like to thank Ed and the Illinois chapter for a good look at what makes a big city tick.

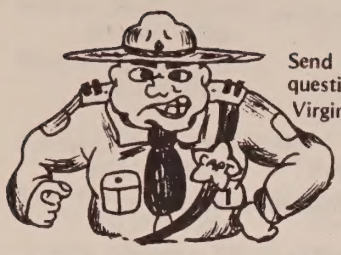
Next up: CHP Los Angeles Communications Center. The Olympics are coming! See ya then...

This column is for reporting Public Safety and Special Emergency frequency information, radio system details, radio codes, dispatch areas, unit numbering systems, etc. for police, sheriff, fire, forestry (except USFS), fish and game, highway patrol, state police, prisons, prisoner work camps, local government, highway & street maintenance, port authority/bridge maintenance, animal control, ambulances, paramedics, hospitals, life guards, ski patrol, search & rescue, flood control, civil defense and disaster organizations. Input and questions for this column must be sent to the proper regional Public Safety editor listed below.

STANDARD TEN SIGNALS

The RCMA recognizes that most Public Safety Departments use "ten signals" as a part of their standard communication procedure. Our editors will not print the more common signals, which are listed below, but will note additions and differences when listing a departments "ten signals". By not having to print the below listed signals repeatedly, we will save valuable space for additional data. Only differences and additions to this listing will be noted by editors. Please refer to this listing when monitoring. Any corrections or additions will be noted during coverage by the editor.

10-1	Receiving poorly	10-33	Emergency
10-2	Receiving well	10-36	Correct time
10-3	Stop transmitting	10-41	Beginning duty tour
10-4	Okay, acknowledgement	10-42	Ending duty tour
10-5	Relay	10-43	Information
10-6	Busy	10-50	Accident (F, PI, PD)
10-7	Out of service	10-51	Wrecker needed
10-8	In service	10-52	Ambulance needed
10-9	Repeat	10-55	Intoxicated driver
10-13	Weather / Road conditions	10-56	Intoxicated pedestrian
10-18	Quickly	10-57	Hit & run accident (F, PI, PD)
10-19	Return to ----------	10-70	Fire alarm
10-20	Location	10-71	Advise nature of fire
10-21	Call ------- by telephone	10-72	Report progress of fire
10-22	Disregard	10-73	Smoke report
10-23	Arrived at scene	10-74	Negative
10-24	Assignment completed	10-76	Enroute
10-25	Report in person to ---------	10-77	Estimated time of arrival
10-27	Drivers license information	10-82	Reserve lodging
10-28	Vehicle registration information	10-88	Telephone number of ------
10-29	Check for wanted	10-99	Wanted / Stolen is indicated
10-30	Unnecessary use of radio	10-0 / 10-100	Use caution



PUBLIC SAFETY — SOUTH EAST:

Send Public Safety and Special Emergency frequencies, radio system details, and questions as follows — Florida, Georgia, N. Carolina, S. Carolina, W. Virginia, and Virginia:

William Mauldin, 2268 N.W. 30th Rd., Boca Raton, FL 33431

MONITORING FLORIDA'S PANHANDLE

In the coming months, many of the Public Safety Southeast members will probably spend some of their vacation time along the beaches of Florida's Panhandle. It is hoped that this monitoring guide will be of some assistance in monitoring this area. Our thanks to Nat Young and Code 20 Publications for assistance in writing this article!

TEN SIGNALS: (Differences and additions from standard RCMA List.)

10-10	Out of service, subject to call
10-11	Dispatching too rapidly
10-12	Officials or visitors present
10-14	Escort
10-15	Prisoner
10-16	Pickup prisoner at ----------
10-17	Pickup papers at ----------
10-23	Standby
10-24	Trouble at station
10-25	In contact with ----------
10-26	Did you receive my message ?
10-27	Any answer my number?
10-30	Against rules and regulations
10-31	Out of car, stopping vehicle
10-32	Contact office
10-34	Negative
10-35	Confidential Information
10-37	Operator / Officer on duty
10-38	Coming by office?
10-39	Message delivered
10-40	Car to car contact
10-41	Meet ----- at --------
10-44	Is breathalyzer available?
10-45	Call ----- by phone
10-46	Holding subject, rush reply
10-51	Enroute
10-60	Next item message number
10-61	Standby, frequency busy
10-62	Unable to copy
10-63	Net directed
10-64	Net free
10-65	Standby for message
10-66	Cancel
10-68	Repeat dispatch
10-69	Have you dispatched --------?
10-70	Switch to channel #---
10-71	Scrambler
10-78	Setup radar at -------
10-97	Arrived at scene
10-98	Finished with last assignment
10-99	Unable to receive your signal
10-100	In hot pursuit!

(These signals are ESCAMBIA COUNTY SHERIFF and to NOT represent most Fla Sheriff's Depts.)

DISPATCH SIGNALS:

0	Armed, use caution
1	D.W.I. driver
2	Hit by auto
3	Hit and run
4	Auto accident
5	Murder
6	Escaped prisoner
7	Dead person
8	Missing person
9	Stolen tag
10	Stolen vehicle
11	Abandoned car
12	Reckless driver
13	Suspicious vehicle
14	Information
15	Special detail
16	Obstruction on highway
17	Contact
18	Cutting
19	Fighting
20	Family disturbance
21	Drunk person
22	Alarm
23	Robbery
24	Lewding
25	Insane person
26	Suspicious person
27	Prowler
28	Grand larceny
30	Accident with injuries
31	Breaking & entering
32	Shooting
33	Suicide
34	Assault
35	Forgery, Bad Check
36	Officer in trouble
37	Fire
38	Free for all
39	Arrest order
40	Drowning
41	Child molesting
42	Sexual battery
43	Bomb threat

FLORIDA PANHANDLE SHERIFF'S AND CITY POLICE

Escambia County Sheriff, Pensacola

460.100 MHz	F1, North Primary Dispatch for Sheriff
460.500 MHz	F2, Secondary Dispatch for Sheriff
460.275 MHz	F3, Regional Mutual Aid Frequency
460.200 MHz	F4, South Primary Dispatch for Sheriff
460.150 MHz	F5, Licensed, but not in use at this time
159.150 MHz	Old radio system, could be used for special needs

155.370 MHz Statewide Florida Law Enforcement Inter-system
155.475 MHz Licensed, but not in use at this time

City of Pensacola Police, Escambia County
460.025 MHz Investigations Channel
460.175 MHz Tactical Channel
460.425 MHz Primary Patrol Dispatch Frequency

City of Century, Escambia County
155.040 MHz Local Government Channel, shared with Alabama agencies

University of West Florida Police
460.225 MHz Primary Dispatch Channel for University Police

1st Circuit, State's Attorney
460.225 MHz Primary Dispatch

Florida Highway Patrol, Pensacola Dispatcher
154.695 MHz F3 Primary Dispatch
154.920 MHz F4 Simplex, Aircraft, Car to Car

Santa Rosa County Sheriff
460.400 MHz Primary Sheriff Dispatch
155.430 MHz Sheriff's vehicle repeater frequency

Gulf Breeze Police
460.375 MHz Primary Police Dispatch
460.400 MHz Shared frequency used by Police
155.430 MHz Vehicle repeater frequency

Jay Police
460.400 MHz Shared Channel used by Police
155.430 MHz Vehicle repeater frequency

Milton Police
460.125 MHz Primary Dispatch for Police
155.430 MHz Vehicle repeater frequency

Okaloosa County Sheriff
460.300 MHz Primary Sheriff Dispatch
460.475 MHz Primary Sheriff Dispatch
37.300 MHz Old frequency, should be phased out soon

Ft. Walton Beach Police
460.375 MHz Primary Dispatch for Police

Crestview Police
460.375 MHz Primary Dispatch for Police

Niceville Police
460.325 MHz Shared Channel, Police Dispatch

Valparaiso Police
460.325 MHz Shared Channel, Police Dispatch

Florida Highway Patrol, Crestview Dispatcher
154.665 MHz F1, Primary Dispatch for area
154.920 MHz F4, Simplex, aircraft, car to car

Walton County Sheriff
460.050 MHz North Repeater, Primary Dispatch, Sheriff CDC
460.050 MHz South Repeater, Primary Dispatch, Sheriff CDC
(These two frequencies operate by having different tones for north and south)

DeFuniak Springs Police
460.050 MHz Dispatched by Sheriff's Central Dispatch Center (CDC)

Holmes County Sheriff
460.500 MHz Primary Sheriff's Dispatch

Bonifay Police
460.075 MHz Primary Police Dispatch

Washington County Sheriff
460.100 MHz Primary Sheriff's Dispatch

Chipley Police
460.025 MHz Primary Police Dispatch

14th Circuit State's Attorney
460.350 MHz Primary Dispatch

Bay County Sheriff
460.225 MHz Sheriff's Dispatch, CDC for many small Police Depts.
460.400 MHz Sheriff's Dispatch, CDC for many small Police Depts.
460.450 MHz Sheriff's Dispatch, CDC for many small Police Depts.
39.300 MHz Old frequency, should be phased out soon.

Mexico Beach Police
460.500 MHz Dispatched by Gulf County Sheriff, plus above freqs.
Panama City Police
460.175 MHz Primary Police Dispatch
Also, above CDC Freqs & 155.430 vehicle repeaters
Panama City Beach Police
460.375 MHz Primary Police Dispatch (plus above CDC freqs)
14th Circuit State's Attorney
460.350 MHz Primary Dispatch
Florida Highway Patrol, Panama City Dispatch area
154.665 MHz F1, Primary Dispatch
154.920 MHz F4, Simplex, aircraft, car to car

Jackson County Sheriff
460.475 MHz Primary Sheriff's Dispatch and CDC Freq
(Sheriff CDC dispatches for PD Alford, Cottondale, Grand Ridge, Malone, Sneads)
Graceville Police
460.125 MHz Primary Police Dispatch
Florida Highway Patrol, Marianna Dispatch area
154.665 MHz F1, Primary Dispatch
154.920 MHz F4, Simplex, aircraft, car to car

Calhoun County Sheriff
460.300 MHz Primary Sheriff's Dispatch (Shared Channel with Altha PD)
Blountstown Police
460.325 MHz Primary Police Dispatch (Shared with Altha PD)

Gulf County Sheriff
460.500 MHz North Repeater, Sheriff's Dispatch (156.7 tone decode)
460.500 MHz South Repeater, Sheriff's Dispatch (192.8 tone decode)
Port St Joe & Wewahchka Police
460.125 MHz Police Dispatch (Shared frequency)
460.500 MHz Police Dispatch (Dispatched by CDC)

This area makes up the western Florida Panhandle area, Florida Highway Patrol Troop "A". The frequency listing was made up from west to east. Corrections and additions will be appreciated!

FLORIDA SHERIFF'S ASSOCATION SIGNALS

The standard Florida Sheriff's Association 10 signals and Dispatch Codes are used by most of the Sheriff's in Florida. Escambia County and Dade County are the exceptions. For those thinking of monitoring Florida, note these signals listed below, as they will not be reprinted any time soon. Omitted signals appear in the RCMA Standard Ten Signals listing.

OFFICIAL FSA TEN SIGNALS:

10-10 Out of service, subject to call
10-11 Dispatching too rapidly
10-12 Visitors present
10-14 Convoy or escort
10-15 Prisoner in custody
10-16 Pickup prisoner at (location)
10-17 Conduct investigation
10-18 Complete present assignment quickly
10-23 Standby / Stop
10-24 Trouble, send help
10-25 In contact with (name)
10-26 Message received
10-27 Complete records check
10-29 Stolen or wanted indicated
10-30 Against rules & regulations
10-31 In pursuit!
10-32 Is D.O. operator available?
10-34 Jail break / trouble at station
10-35 Confidential information
10-37 Operator / officer (name) on duty
10-38 Block road at (location)
10-39 Message delivered
10-40 Out for meal at (location)
10-41 In possession of (item)
10-42 Out of service at home
10-43 Any traffic for (name)?
10-44 Pickup papers at (location)
10-45 Call (name) by phone
10-46 Urgent
10-47 Blood run
10-48 End / Did you receive?
10-49 Serving warrant
10-50 Stopping vehicle (give data)
10-51 Enroute
10-52 Estimated time of arrival
10-53 Coming by office
10-54 Negative
10-55 Car to car transmission
10-56 Meet (name) at (location)
10-57 At pistol range
10-58 Teleprinter message
10-59 Send teletype
10-60 Assist motorist
10-61 Need sergeant on scene
10-62 Need Sgt on scene
10-63 Need Lt on scene
10-64 Need bomb squad on scene
10-65 Can you copy?
10-66 Cancel
10-67 Serving civil process
10-68 Legal advisor requested
10-69 Narcotics agent requested

10-70 Wrecker requested
10-71 Ambulance requested
10-72 Aviation unit requested
10-73 Juvenile unit requested
10-74 Re-call
10-75 thru 10-87 for local needs
10-88 Where can (name) be reached?
10-89 On page service
10-90 Scramble code (A,B,C,D,E,F,G)
10-91 Tac frequency
10-92 Information frequency
10-93 Detective requested
10-94 Backup requested
10-95 Computer check
10-96 Radio-Telephone patch
10-97 Arrived at scene
10-98 Completed assignment
10-99 Wanted by NCIC/FCIC Hit
10-100 Alert! Remain in contact with station

(Editors Note: As most of you can tell, Florida is still using ten signals from years ago. The signals used by the Dade County Public Safety Department and the Florida Highway Patrol differ from these signals. We will update both Dade PSD and the Florida Highway Patrol in coming months. Uniform police communications signals are the basis for good, clear police communications. It is clear when you have a signal meaning variation within a state, problems will result. Anyone who monitors much in Florida can confirm this! There seems to be an effort to correct the problem, however, at this time the problem is so extensive that the Florida Highway Patrol is slightly different!

FLORIDA SHERIFF'S ASSOCIATION DISPATCH SIGNALS

0 Armed, use caution
1 Drunk driver
2 Drunk pedestrian
3 Hit and run
4 Accident
5 Murder
6 Escaped prisoner
7 Dead person
8 Missing person
9 Stolen tag
10 Stolen car
11 Abandoned vehicle
12 Reckless driver
13 Suspicious vehicle
13P Suspicious person
14 Information
15 Special detail
16 Child abuse
17 Contact
18 Felony
19 Misdemeanor
20 Mentally ill person
21 Breaking & entering
22 Disturbance
23 Pedestrian/Hitchhiker
24 Kidnapping
25 Fire
26 Drowning
27 Prowler
28 Civil disorder
29 Reckless boat operation
30 Larceny
31 Assault (name type)
32 Suicide
33 Shooting
34 Stabbing
35 Rape
36 Distrubance/Fight
37 Disturbance/Juvenile
38 Disturbance/Domestic
39 Disturbance/Neighbor
40 Vandalism/Malicious mischief
41 Robbery (type)
42 Child molest
43 Lewd Act
44 Boat accident
45 Airplane crash
46 Bomb threat
47 Vice case (non-drug)
48 Open door
49 Alarm (give type)
50 Labor trouble
51 Trespassing
52 Forgery/Counterfeit
53 Embezzelment
54 Hijack aircraft
55 Explosion
56 Beverage violation
57 Narcotics
58 Unlawful assembly
59 Fire bombings
60 Sniper fire
61 Gambling
62 Racial trouble
63 Impersonating officer
64 Larceny of auto parts
65 Shoplifter
66 Civil matter
67 Sick or injured person
68 Police service call
69 Loose farm animal
70 Animal bite
71 Snake call
72 Lost/Found property

Sometimes we receive mail from readers who are not RCMA members. This is one of those cases. Our thanks to Matthew for this interesting article on Huntington, West Virginia. I do hope by the time this information is printed that you have submitted your membership, Matthew! We need new members in West Virginia, especially!

MONITORING HUNTINGTON, WEST VIRGINIA

Huntington Police	155.250 MHz	F1, Detective Dispatcher
Huntington Police	155.520 MHz	F2, Patrol Dispatcher
Huntington Fire	153.770 MHz	F1, Mobile simplex, fireground
Huntington Fire	154.430 MHz	F2, Dispatch Fire & EMS

Cabell Huntington Hospital	155.400 MHz	Also, Shafer Ambulance Service
St. Mary's Hospital	155.280 MHz	Statewide Rescue Frequency
Veterans Hospital	164.700 MHz	Federal Frequency

West Virginia State Police, Huntington area:

State Police	42.100 MHz	Huntington Dispatcher
State Police	42.120 MHz	Pocahontas & Greenbrier area
State Police	42.260 MHz	Mobile to base, State Police
State Police	155.505 MHz	Mobile SP Frequency

Other Police and Fire Departments in area:

Marshall University	155.310 MHz	University Campus Police
Barboursville Police	154.845 MHz	Police Dispatch
Milton Police	39.540 MHz	Police Dispatch
Milton Fire	31.980 MHz	Fire Reporting Tower
Milton Fire	31.860 MHz	Fire Reporting Tower
Kenova Police	155.745 MHz	Police Dispatch
Ceredo Police	155.655 MHz	Police Dispatch
Ceredo & Kenova Fire	154.385 MHz	Fire Dispatch for both areas
Cabell County Fire	45.240 MHz	VFD & EMS Dispatch, west end
Cabell County Fire	45.560 MHz	VFD & EMS Dispatch, east end
Cabell County Sheriff	39.840 MHz	Sheriff Dispatch, west
Cabell County Sheriff	39.980 MHz	Statewide Mutual Aid
Lavalette Fire	155.100 MHz	Fire Dispatch
Wayne Fire	154.220 MHz	Fire Dispatch
Wayne County Sheriff	39.920 MHz	Sheriff Dispatcher
Lincoln County Sheriff	39.900 MHz	Sheriff Dispatcher

OTHER General Interest Frequencies:

Emergency Interstate Aid	47.620 MHz	General Interstate Aid Data
Emergency Interstate Aid	47.500 MHz	General Interstate Aid Data
U.S. Corps of Engineers	163.4375 MHz	163.4125 MHz; 164.0500 MHz
U.S. Corps of Engineers	165.0625 MHz	Tri State Airport
WAMX Radio Station	161.670 MHz	161.700 Traffic Reports
W8VA Amateur Repeater	146.760 MHz	Amateur Radio Traffic
APCO Power Company	37.580 MHz	37.640 MHz, Power Company

FIRE DEPARTMENT PROFILE

The following Fire Department Profile information was provided through the American Fire Services, 39 Sherbrooke Avenue, Hartfort CT 06106. Our thanks and appreciation to AFS and Ignatius Kapalczynski for this information!

FIRE DEPARTMENT, CHARLOTTE, NORTH CAROLINA

Population: 325,000 Coverage Area: 125 square miles
Headquarters: 125 South Davidson Street, Charlotte, North Carolina
Fire fighters: 633 Workweek: 52 hours Fire calls: 8,400

Radio Frequencies:

460.525 MHz	F1	Operations
460.625 MHz	F2	Fireground
460.550 MHz	F3	
460.600 MHz	F4	
460.575 MHz	F5	
33.940 MHz		County Mutual Aid

Fire Stations	Equipment Assigned
South Davidson & 4th Street	E1, H1, L1, S1, DC1, R1, AC
South Blvd & Arlington	E2, L2
Monroe & Post	E3, K3, L3, DC4
North Church & 9th Street	E4, L4
Tuckaseegee & Duckworth	E5
South Laurel & Will	E6, L6
North Davidson & 35th Street	E7
Plaza & Commonwealth	E8, E64
East Blvd & Blythe	E9, R9
Remount & Wilkinson	E10, K10, L10, DC3
Mortez & Bancroft	E11, DC2, B11
Inwood & Gilmore	E12, L12, B12
Glenwood & Rowan	E13, B13
North Sharon Amity & Randolph	E14
Frontenac & Eastway	E15, L15
Park & Selkirk	E16
Douglas Municipal Airport	E17, X1, X2, X7
Keller & Beattes Ford	E18, L18

Sardis Lane & Valleybrook	E19
Nations Ford & Arrowood	E20
Little Rock & Paws Creek	E21, K22
West Sugar Creek & Derita	E22, K23
Delta & Hickory Springs	E23, K23
Carmel & Route 51	E24, K24

FIRE DEPARTMENT, ORLANDO, FLORIDA

Population: 200,000	Coverage Area:	63 square miles
Fire fighters: 196	Workweek:	56 hours
Fire calls: 5,000	EMS Calls:	10,100

Headquarters: 100 South Hughey Avenue, Orlando, Florida

Radio Frequencies	Assignment
453.050 MHz	F1 Dispatch & Operations
453.150 MHz	F2 Fireground
453.250 MHz	F3 Administrative
453.350 MHz	F4 Fireground/Mutual Aid

** 453.350 MHz crossbanded with 154.430 MHz

Fire Stations	Assigned Units
Magnolia & South	E1, E101, TWR1, R1, DC1, HM1, AC
Central & Parramore	E2, TWR2, R2
Elizabeth & Rugby	E3, R3
Ferncreek & Marks	E4
Orange & Kaley	E5
Robinson & Crystal Lake Drive	E6, X6, R6, DC3
Goldwyn & Eccleston	E7, R7, DC3
Brynmawr & Eunice	E9,
Vineland & Major	E10, TWR10, B10
Curry Ford & Gaston Foster	E11, E8, TWR11, B11

District 1	Stations 1, 2, 3, 5
District 2	Stations 7, 9, 10
District 3,	Stations 4, 6, 8, 11

(Editors Note: The equipment codes are not published because of space. If you monitor these departments, the code will be self-explanatory. For example, E1 would clearly indicate Engine #1, and X6 would be Expansion Foam Truck #6. Listen for the dispatchers terminology!)

READER UPDATES - CORRECTIONS:

Some very interesting contributions this month! This is the section where those single frequency updates, additions or corrections are noted. Thanks to all who wrote this month!

From Joe, MD-015, add to the Florida State's Attorneys listing published in the Jan 84 Newsletter, the frequency of the Florida State's Attorney in Pinellas County: 453.150 MHz; Florida Fish & Game updates - Dunedin 151.265 MHz, Tampa 160.425 MHz, Orlando 151.160 MHz & 151.385 MHz & 151.415 MHz; Division of Forestry - Orlando 159.240 MHz, 159.300 MHz, 159.330 MHz; Tampa 159.330 MHz, Leesburg 159.240 MHz, 159.300 MHz, 159.330 MHz. State Parks - Dunedin, Honeymoon, Caladesi Islands, Clearmont, Lake Lousia, Leesburg are all operating on 44.760 MHz. Marineland Security and Services 464.575 MHz.

From Alan, MD-069, some of the Northern Virginia Metro Washington DC traffic reporters: Washington (Metromedia) Radio (450.250 MHz) "Washington Skywatch Traffic with Officer Steve"; Washington Plane to Baltimore M.T.C. & WTTG-TV on 161.730 MHz; WMAL Radio (ABC) - 161.700 MHz (Primary Freq) "Captain Dan WMAL Shyhawk 63"; WMAL station reporters use 455.2125 MHz; WMAL and REACT use 462.675 MHz for information exchange; WTOP (CBS) Radio uses 450.350 MHz for "WTOP Traffic" reports (this frequency is also used by CBS at time); Traffic reporters in the northern Virginia, DC, Baltimore area often exchange information with each other on 122.750 MHz (AM aircraft freq); Alan confirmed, during his recent Miami visit that our traffic frequencies were correct, and added that in MIAMI AREA you can here... WGBS (Al Abrea 710 Sky Scan) is heard on 170.150 MHz. WTVJ live audio for TV NEWS was heard on 450.2125 MHz. Alan's main interest is in media traffic reporting frequencies, and he asks that any members who would like to exchange information with him can contact him at this address: Alan Henney (MD-069), 6912 Prince George's Avenue, Takoma Park, Maryland 20912.

Scott, FL-033, sends in these changes for the Broward County Sheriff's dispatch: 145.860 MHz is now Sheriff's Districts 2, 4, 6. The 154.710 MHz is now dispatch for specialty units and routine District 1 dispatching. 155.130 MHz is Broward County Sheriff District 3 dispatch; 460.573 MHz is Lauderhill Fire Dispatch; 471.0625 MHz is Broward County Traffic Engineering.

Scott updates and confirms the Broward County Sheriff Districts as:

District 1	South Broward County
District 2	Fort Lauderdale area
District 3	North Broward County
District 4	Lauderdale Lakes
District 5	Pembroke Park (District 5 is within District 1 area.)
District 6	Lauderhill

The "BAT MOBILES" (Breath Analyzer Units) are now call signed "Tango". Scott adds that no longer being dispatched on 154.860 MHz, and that when he learns what they are using, he will advise us. (Editors Note: Broward County is Greater Ft Lauderdale area)

Ken, FL-025, sends in data which confirms Broward Sheriff is dispatching District 1, south county area, on 154.710 MHz (known as Channel 1) and also Hacienda Village. 155.130 MHz (Channel 4) is now District 3, north county BSO and Seminole Indian Police and Sea Ranch Lakes; 154.860 MHz (Channel 7) is now dispatch for Districts 2, 4, 6, the BSO central county area. Ken notes that one reason for this change is that the City of Plantation has moved from BSO Central Dispatch Center Channel 7 to their own 800 MHz system. Plantation is now dispatching (860.2625 MHz) F1 and using F2 (859.2625 MHz) for car to car and information.

Editors Note: The FCC frequency assigments for many shopping mall security dispatchers is beginning to show a pattern, especially in South Florida. Many mall security teams are now dispatching on the SAME frequency... 151.775 MHz! If you note VHF walkie talkies being used in your local mall, this would be an excellent frequency to check first!

Dave, FL-031, sends in these notes: Florida Fish & Game in Orlando 160.140 MHz, near Lake Okeechobee Florida Fish & Game use 160.425 MHz & 161.445 MHz! Dave mentions that the Fla Fish & Game freqs are tone controlled, and that he also hears them on 151.385 MHz, paired with 151.160 MHz mobile, and 151.430 MHz (paired with unknown freq). Florida Bureau of Law Enforcement is active in Orlando on 460.150 MHz, 45.460 MHz paired with 45.380 MHz mobile (Channel 1), 45.820 MHz (paired with 45.180 MHz mobile) Channel 3, 45.300 MHz (Channel 5), and 45.100 MHz talking with 45.340 MHz and 45.260 MHz. (** Orlando members please send in any additional information you have on this!) Orlando traffic media operations are: Orlando Sentinel Star 453.000 MHz; WAJL remote broadcasting 161.700 MHz; WBJW (BJ-105 & WCOT) 161.730 MHz; WHOO 161.640 MHz; WKIS 161.670 MHz; WDBO 161.760 MHz; WESH-TV F1 450.0875 MHz - F2 450.1875 MHz; WCPX TV-6 455.2125 MHz; WFTV TV-9 455.650 MHz! (Editors Note: Dave sent in this contribution some months ago and I LOST it in the computer! You should have seen my face when the information just appeared on the screen! "ME" and this TRS-80 Model III will get together one of these days! PLEASE DROP ME A NOTE IF YOU HAVE SUBMITTED ANYTHING WHICH HAS NOT BEEN PRINTED! The computer says that everything except some contributions sent since February 1984 should have been printed by this issue! Dave's entry really surprised me! I want to make certain that there is no more material "hiding" in my files! If you submitted any material before February 1984 which has not been printed, even though acknowledged, let me know so I can see what else is hiding in this gray box! My "computer" and I deeply regreat any oversights!!

Editors Note: Miami Fire Dispatch will be going 800 MHz as soon as the radio equipment arrives. Miami Police will not be far behind!

FROM THE CAPTAIN'S DESK

In this part of the Public Safety Southeast, it seems everyone is talking about moving to 800 MHz. Of course, I know every department isn't going to move up there, but there are lots of them in the major metro areas that are, and soon! Like you, I have been wondering where the 800 MHz scanners are! We know that the manufacturers have the technical resources. Could it be that the "majors" under estimated the number of departments eager to make the investment to get the new frequencies? Personally, I am not going to buy any new scanners at this time until Regency, Bearcat or Fannon or whoever comes out with a good, sensitive, well built unit that will AT LEAST cover 800 MHz. I have been hearing from the dealers that Regency is still having type acceptance problems with the MX-7000 because of emissions. I will have to give Regency credit and say that they do have the right idea in development of a scanner which has the wide range needed to cover present and future radio systems! Building a scanner which just covers 800 MHz and the other standard bands is not very practical. First, there is lots of good listening on "the other" frequencies. And, second, with the frequency congestion of modern living, there will additional "standard communication bands" being considered. Who knows! 900 MHz may be just around the corner! I am a little disappointed at Regency for not making the MX7000 a more "professional" unit with say a 50 channel memory. I am sure this is coming as the market progresses. Also, Bearcat really seems to have dropped the ball, coming out with the limited market "computer scanner" rather than something along the lines of the MX7000. The remarks in the field regarding the Bearcat CompuScan 2100 has been generally unfavorable reaction! I couldn't help but smile when I noticed one major radio dealer already is advertising in QST, the ARRL amateur radio publication, offering the Regency MX7000 for $375 and as I write this, the radio is still not released yet.

April is a pretty good month for radio shows! Of course, I hope I will see some of you at Dayton for the Hamvention. This will be the biggest show of them all for the year, and there will be three full days of flea market! The event takes place at the Hara Arena in Dayton, Ohio April 27, 28, 29. Don't come planning to find motel space at the last minute because this event is sold out for months ahead. Information can be obtained by calling the Dayton Amateur Radio Association at 513-433-7720. Admission for all three days is $7.50 in advance and $10.00 at the gate, with a waiting line, usually. You can't see it all in a day!

Other scheduled events are:
April 15th: Raleigh NC - Raleigh Amateur Radio Service Hamfest & Computer Show!
April 15th: Kennesaw GA - Hamfest and Radio flea market
April 21st: Oak Ridge TN - Annual Hamfest and Radio flea market
April 20th & 21st: Baloneyfest, Henry Horton State Park, Tennessee
(If you know of any southeast event you want published here, let me know in PLENTY of time and I will publish it! Remember, the information must get to me 90 days prior to the month!)

If you have not taken part in the READER SURVEY, please take the time to do so today! Future articles will be based on the results of the answers YOU send in! You do not have to send your name, address or ID number if you don't want to, however, the future articles will be based on areas were members want it. You pay $16.50 a year for your membership. Make your membership count by answering the 10 questions! My thanks to those who made this column possible this month! Without your input, this column would not appear!

THE READER SURVEY IS THIS MONTH'S CENTERFOLD

PUBLIC SAFETY — NORTH EAST:

Send Public Safety and Special Emergency frequencies, radio system details, and questions as follows — New England states, New York, Pennsylvania, New Jersey, Maryland, Delaware, and District of Columbia:

Richard Barnett, P.O. Box 428, Newton Highlands, MA 02161.

MASSACHUSETTS
From Ed Soomre (MA-017)

The Massachusetts Civil Defense Agency operates a statewide radio system for its own communications. Some of these communications are handled between area headquarters via 900 MHz and 1800 MHz point-to-point microwave and telephone lines. Most communications between the area headquarters and its mobile units are handled on two VHF low-band frequencies: 45.36 MHz (primary) and 45.32 MHz (secondary). State headquarters is located at Framingham, which can operate on both low-band frequencies from either its own base station or remotely through a transmitter/receiver on Mt. Wachusett in Princeton.

The state is divided up into four areas. These areas are divided up as: Area 1 - Essex and Middlesex counties; Area 2 - Norfolk, Bristol, Plymouth, Barnstable, Dukes, and Nantucket counties; Area 3 - Worcester county; Area 4 - Franklin, Hampshire, Hampden and Berkshire counties. Suffolk county is part of Area 1. Refer to the Massachusetts Guide for a detailed map of each area. These areas are further divided into sectors.

Each area headquarters, as well as the state headquarters, has the capability to operate on any state radio communications system (such as public works, forestry, state police and others) so that these agencies can be coordinated in case of a disaster. The area headquarters also operate on amateur radio networks which are involved in civil defense activities. Many of these networks are located in the amateur two-meter band (refer to the amateur radio two-meter list in this supplement for details.

This is a list of stations allocated to 45.32 and 45.36 MHz, most of which are used for Civil Defense operations. There are, however, some stations being licensed to these frequencies which are used by county and local governments. They have nothing to do with State Civil Defense operations. Their use, when known, is listed here.

Location	Call Sign	Frequency(ies)		Use
Amherst	KCF 852	45.32	45.36	CD Area 4C operations
Belchertown	KCF 828	45.32	45.36	CD Area 4 headquarters
Boston	KNAQ 869	45.32		State House tie-in ?
Boston	KYU 415	45.36		State House tie-in ?
Brimfield	KVN 507	45.32		CD Area 4A operation
Chicopee	WZY 436	45.36		

Bridgewater	KCF 833	45.32	45.36	CD Area 2 headquarters
Brockton	WRH 488	45.32		
Dalton	KYO 251	45.32		CD Area 4E operations
Fall River	KYU 885	45.36		
Framingham	KVN 506	45.32		CD State headquarters
Framingham	KCF 831	45.36		CD State headquarters
Ft. Devens	KJL 648	45.36		CD tie-in with Army ?
Gardner	KCG 672	45.36		Area 3E operations
Hyannis	KYU 417	45.32	45.36	Area 2C operations
Lexington	KYU 886	45.36		
Maynard	KNAW 595	45.36		CD tie-in with FEMA
Pittsfield	KCF 835	45.32	45.36	Area 4E operations
Plymouth	KNBU 648	45.32		
Plymouth	WQN 854	45.32		Mosquito control
Princeton	KVN 528	45.32		CD headquarters remote base
Princeton	KCF 838	45.36		Mt. Wachusett remote for Framingham
Tewksbury	KCF 830	45.32	45.36	Area 1 headquarters
Topsfield	KDZ 342	45.36		CD Training Academy
Westfield	WXM 704	45.32	45.36	Area 4B operations
Westboro	KCF 842	45.32	45.36	Area 3 headquarters
Worcester	WXT 813	45.32		Area 3A operations
W. Yarmouth	KCG 354	45.36		Mosquito control

Some Local CD Frequencies

153.875 - North Shore communities
39.900 - Weymouth
39.180 - Natick
462.700 - Acton
39.220 - Far So. Shore communities
155.115 - Fitchburg
50.465 - Fitchburg area towns
(Highway and/or municipal services frequencies may also serve as a town's CD channel.)

mobile statewide KD 8042 45.32 and KD 7383 45.32/45.36

The state headquarters and area headquarters are manned from approximately 8am to 5pm daily, at which times they sign on and off. The state headquarters is also manned by communications personnel 24 hours a day, 7 days a week, with station identifications at approximately 8am, 5pm and midnight. Sector operation centers are manned and radio equipment is tested and operated as required (no strict schedules).

A footnote to the above information is that there is a new statewide civil defense network being formed in the 153-155 MHz bands. Communications have been received on 155.085 MHz with extensive testing in western Mass. There are supposedly two repeater sites in operation: Mt. Wachusett in Princeton and Mt. Greylock in North Adams. One of these repeaters is using the call sign KNBD 974. The Mass. Civil Defense Agency in Framingham has been recently licensed as KNDB 952 on 153.965, 154.085, 155.085, 155.745 and 155.955 MHz. There may be activity on some of these new frequencies, too.

From Steve (PA-47):
Harrisburg, PA frequencies

Steve writes that his Harrisburg police channelization plan is different than Al's (PA-029), but his frequencies are the same. Units have been switching back to the old system for what they want to try to keep quiet. The old system includes channels on 155.700, 156.210 and 156.450 (?). Steve had to do a lot of pleading to get the signal list (there are some gaps in it he would like filled if anyone can help) and their 10-codes which are standard APCO.

460.225 Felony Channel
460.325 ?
460.275 Ch. 11 -Dispatch
460.300 Ch. 12 -License, reg checks
460.350 Ch. 13 -Vice, detectives

Three Mile Island Nuclear Plant 451.050, 451.125.

SIGNAL CODES

10 Treasury
16 Send juvenile officer
17 Mental case
18 Person down
23 Theft
24 Juvenile
25 Attempted burglary
26 Loud radio/TV
27 Noisy party
28 Trouble (unknown)
29 Suspicious person
31 Burglary
  A. Investigate
  B. Still in building
32 Gun
34 Drunk
35 Sick person
40 Injured
41 Hbg. Hospital
42 Polyclinic Hospital
43 Holy Spirit Hospital
44 Hbg. State Hospital
46 Osteopathic Hospital
49 Robbery
  A. Armed
50 Shooting occurring
51 Suicide
  A. Attempted
53 Murder
54 Boat in trouble
55 Drowning
59 Stolen bicycle
60 Ball game
63 Disabled vehicle
64 Gambling
68 Send wagon
70 Deceased
  A. Natural
  B. Violent
71 Possible fatality-injury critical
74 Send tear gas equipment
75 Need
  A. Rifles
  B. Shotguns
  C. Machine
77 Criminal mischief
79 Public indecency
80 Indecent assault
81 Simple assault
82 Aggravated assault
84 Shoplifting
  A. Juvenile

Public Safety - North East continued

85 Air Raid Alert Pending
- A. Yellow
- B. Blue
- C. Red
- D. White

88 Purse snatch
91 Burglar alarm sounding
92 Sprinkler alarm sounding
94 Rape
95 Investigate abandoned car
96 Lost child
99 Subpoena

UNIT CALLS

Mayor 100
Safety Director 101
Chief 102
Patrol and traffic 20
Detective Division 30
Staff and Technical 40
Youth Aid Division 50
Community Relations 60

Corp. 4XX
Sgt. 5XX
Lt. 6XX
Cpt. 7XX
Comm. Center 8XX

PUBLIC SAFETY - DELAWARE VALLEY

This month our feature is on "Winter Monitoring in the Delaware Valley"... But first we have corrections and updates to make. A member from Atlantic City has forwarded these corrections to the information in the January article:

Atlantic City, N.J.

PD	Tac 1	460.150	Portables
PD	Tac 2	460.425	Dispatch(simulcast w/155.130)
PD	Tac 3	460.325	Detectives
PD	Tac 4	460.200	DVP (not used)
PD	"Chan 4"	155.010	Car>Car only
PD	"County"	156.210	County PD
PD	MODAT	460.525	Not used
PD		155.130	Car Radios
	Traffic	154.055	Traffic units, Tow Trucks, Jitneys, Inspectors
	Local Govt.	154.100	Public works
	Radio Shop	153.725	Communications
RQ	Beach Patrol	155.220	Ambulance & Beach Patrol
RQ	County RQ	155.175	
FD	F1	154.025	
FD	F2	154.310	
FD	F3	154.415	
FD		153.950	
FD		153.770	

Atlantic City Police Codes

10	Chief of Police	31	Breaking/Entering
11	Dir. of Public Safety	32	Burglar
12	Mayor	33	Cutting/Stabbing
14	Captain of Police	34	Burglar Alarm
15	Radio Technician	35	Shooting
16	Sgt. of Police	36	Murder
17	Detective	37	Suicide
18	Radio Room	38	Hold-up
21	Juvenile	39	Bomb
22	Noise	41	Stolen Vehicle
23	Trouble	42	Recovered
24	Suspicious Character	43	M.V.A.
25	Prowler	44	Hit & Run
26	Fight	45	Riot
27	Drunk	46	Caution (Armed)
28	Domestic	47	Warrant
29	Neighborhood Dispute	48	Hurry
30	Officer in Trouble		

Public Safety - North East continued

49	Complaintant	75	Eating
51	All Cars	76	Personal Serv
52	Escort	87	Comms. Supv.
53	Out of Service	88	Armored Car
54	In Service		
55	Telephone Call		
56	Ambulance/Hospital		
57	Test Call		
58	False Call		
61	Fire		
"6-2"	Stand-by		
69	Major Crimes Sqd.		

Other Codes:

S-80	High School
7	Dead Body
9	Deputy Chief
19	Inspector
20	Mental Patient
50	Plane Crash
S.O.W.	Sent on Way
MC	Motorcycle

Radio Calls - Priority followed by code:
i.e. "1-39" Bomb Threat

Priority 1 - Life Threatening, etc.
Priority 2 - Accidents
Priority 3 - others
Priority 4 - Least priority

Unit Numbers:
Cars are one man for most sectors: beat id + letter
i.e. 1-A Beat #1 car A
Footbeat Officers: "W + number"
Boardwalk Footbeat "BW + number"
Two Man cars: two digit numbers represent two sectors covered:
i.e. "21" covers beats 2 + 1

As always - reader input is welcome, and ALL letters, contributions, questions or comments about this section should be sent to:

Tim Leber
Post Office Box 27757
Philadelphia, Pennsylvania, 19118

WINTER MONITORING IN THE DELAWARE VALLEY

So far, the winter of 1983/84 has been quite tame in the Delaware Valley (unlike the rest of the country). Snowfall has been well below normal and while the area was hit with some rather cold weather - Mother Nature has been quite kind overall.

Sooner or later - we'll get our share of the snow that blankets most of the country. So let us take a look at the "Hot Spots" on the winter monitoring scene.

In Philadelphia - Philadelphia Police "T Band" (453.250) becomes particularly active during bad weather. This channel covers patrols on the major highways inside the city. "M Band" (453.550) also carries weather related traffic. The city streets department (453.925) channel also is a good source on information on street conditions and plowing/salting operations. The city contracts with several outside companies for additional snow clearing equipment, one of the busiest being J.D. Morrissey (451.875).

The traffic reporting agencies are extremely good sources

of information during bad weather. The ARCO Go-Patrol operates on two UHF channels: 450.850 is a remote broadcast pick-up (RPU) station used to relay traffic reports to the various broadcast stations that the Go-Patrol serves. When monitoring this channel, you'll hear the traffic reports are they are sent to the various stations in the ARCO network. The Go-Patrol also maintains a GMRS (General Mobile Radio Service) repeater for their patrol vehicles on 462.725. The city's other traffic reporting service - Shadow Traffic Network - also maintains a GMRS channel for their patrol vehicles on 462.550. Monitoring these channels can give you the "inside track" on traffic and road conditions....

Talking about things on the road - the Automobile Associations also have their hands full in bad weather - with stalled and stuck cars, dead batteries and other automobile problems that seem to multiply in poor driving conditions. In Philadelphia, Keystone AAA operates several UHF and VHF stations:

452.550
452.575
452.600
150.935
150.905
150.965
157.425

(Note that these channels are simplex operation)

The mass transit carriers are also affected by bad weather. SEPTA operations and supervisors may be heard on:

F9	502.6625	(South Supervisors)
F14	502.7875	(North Supervisors)
F12	502.7375	(Emergencies)

for the city division. SEPTA Red Arrow operations are on 30.98.

SEPTA commuter trains generally operate on 160.350 or 161.400, with additional CONRAIL traffic on 160.800.

The state operated highway and transportation communications networks also are much more active during inclement winter weather. The Pennsylvania Department of Transportation (PENNDot) operates on three 47 MHz channels in the Philadelphia Area (District 6):

F1	47.30	Base to Mobile
F1	47.38	Mobile to Base
F2	47.28	Mobile to Mobile

The New Jersey State Department of Transportation operations may be monitored on:

47.14
47.26
47.36
47.40

with the majority of communications on 47.14. Both New Jersey and Pennsylvania broadcast regular weather reports and roadway condition broadcasts.

In Delaware - the State highway and transportation departments also operate on 47MHz channels:

F1	47.22	New Castle/Sussex Co.
F2	47.34	Kent County

During the winter - the communications networks for the major toll roads also can yield interesting listening:

Pennsylvania Turnpike

159.075	East-West Roadway (F2)
159.045	Northeast Extension (F1)
159.000	Mobile to Mobile

New Jersey Turnpike

159.180	Maintenance Network
155.190	State Police Dispatch
453.875	Road Service

Atlantic City Expressway	
453.700	Police/Maint.
453.900	Police/Maint.

The various "local government" and "highway maintainance" channels also tend to become more active during winter storms. Space does not permit a listing of all of these channels - but those equipped with programmable scanners with "search" facilities may wish to investigate these areas:

Highway Maintenance:

37.90-37.98
47.02-47.40
150.995-151.130
156.105-156.240
158.985-159.195
453.000-453.975

Local Government:

37.10,37.18
39.00-39.98
45.08-45.64
46.52-46.60
153.740-154.115
154.965-155.145
155.715-156.015
158.745-158.955
453.050-453.975

Of course - any article on "bad" weather monitoring would be incomplete without listing the NOAA weather radio channels:

Philadelphia	162.475
Atlantic City	162.400
Allentown, Pa.	162.400
Lewes, Del.	162.550

This listing is quite incomplete and very basic - if any members have contributions to this list - please forward them to the above address.

PUBLIC SAFETY — SOUTH CENTRAL:

Send Public Safety and Special Emergency frequencies, radio system details, and questions as follows — Alabama, Arkansas, Louisiana, Mississippi, Tennessee, Oklahoma, and Texas:

Ken Pehl, 108 E. Centre St., Fredericksburg, Texas 78624.

Hello everyone! As I start to type up this column I find the mail and the input for this month a bit on the light side. Perhaps by the time I finish up the mail box will bring in some further input to use this month. The info that we do have for you is top quality as always. A special thanks to all who contributed this month. So let's get started.

We received some feedback in response to the February column inquiry regarding David's (LA-31) puzzle on 158.730. From REED, AL-??? and from MARVIN, TX-2: In response to your February 1984 column---158.730 KIY 300 is the main dispatch frequency for the Mobile County (Alabama) Sheriff Dept. The city of Slidell (La.) PD also uses this as their dispatch frequency and can be heard quite regularly in Bayou La Batre, AL.

Thank you, Reed & Marvin, for taking the time to point this matter out to us. The members in La., I am sure, certainly appreciate this bit of info. This surely demonstrates how we can help each other out at times, through the column. I hope everyone keeps it up.

And speaking of Louisiana, the Louisiana Frequency Exchange still offers their services to anyone who cares to join. You may inquiry to: The Louisiana Frequency Exchange, P.O. Box 45913, Baton Rouge, LA 70895. I am sure an SASE would be appreciated when inquiring.

From MARVIN, TX-2: Marvin isn't finished with input for the month either! He shares with us some La. freq. info from near the La./Tex. border:

CAMERON PARISH, LA AREA FREQUENCIES
155.550 R (154.785 input) KJT 307 Sheriff Dept. -- main dispatch
39.50 S KKH 831 Louisiana Inter-city (La. state-wide common mutual aid)
155.370 B KKH 831 base for co-ordinating with Texas Inter-city net
37.98 S KDK 758 Cameron Parish Civil Defense
155.340 S call u/k West Cameron Hospital -- hosp/amb.
155.220 S KFE 452 Holston Ambulance Service (Lake Charles)

Note: As of this writing, no fire frequencies for this area have been found. Also note, Cameron Parish Sheriff Dept. is equipped with 155.370 for communicating with the Texas Inter-city net, especially with Port Arthur (Texas) Sheriff Office. It is unknown at this time if their mobile units are equipped with 154.950, the Texas Inter-city mobile common, or not.

CALCASIEU PARISH, LA. AREA FREQUENCIES
39.86 S KEO 244 Sheriff Dept. -- main dispatch
39.50 S KEO 244 Louisiana Inter-city
155.790 ? call u/k use unknown at this time
155.370 B KEO 244 base for co-ordinating with Texas Inter-city net
Note: Sheriff Dept. and La. State Police mobile units in this area on and along I-10 are equipped with Texas Inter-city channels for communications with the Texas DPS and Orange County (TX) Sheriff Office bases and mobile units.
155.535 R (154.650 input?) callsign u/k Lake Charles PD -- main dispatch
155.010 S callsign u/k Westlake PD -- main dispatch
155.415 R (154.890 input?) callsign u/k -- use unknown
158.910 ? callsign u/k -- use unknown
154.235 R (153.770 input) KEW 500 Lake Charles Fire Dept.-main dispatch & fireground
154.280 S KEW 500 Lake Charles FD Ch 2 -- mutual aid ch.
154.445 S callsign u/k Parish wide central FD's dispatch
154.190 R (153.890 input) KKU 389 Sulphur FD -- main dispatch

LAFAYETTE PARISH, LA FIRE CH's
154.130 S callsign u/k Lafayette FD -- main dispatch
154.145 ? callsign u/k use unknown
154.220 ? callsign u/k Lafayette Parish central FD's dispatch

ST. MARTIN PARISH, LA
153.950 S KXZ 609 Breaux Bridge FD -- main dispatch & fireground

Marvin also wishes to correct a minor point in his March 1984 column report on the Lumberton VFD (Hardin County, Texas). The Lumberton VFD mobile units do <u>not</u> activate the low band radio through the UHF repeater, as had been reported. Only the dispatcher is heard on the low band frequency (46.36) <u>and</u> on the UHF ch. The mobiles and the dispatcher are both on the UHF repeater. This leads Marvin to believe the low band channel is for paging only and the communications/fireground are only on the UHF frequency.

Marvin would also like to know if there are any other fire buffs out there among our readers, or if there is a fire buff club in existance somewhere in the state of Texas? How about it, anyone? Any takers? Thanks for writing, Marvin. We are always happy to see input from your part of the world.

From BRAD, OH-138: Brad continues to treat us with some additional tasty morsels of Tarrant County area frequency info...
--Tarrant County Constables seem to be using the freq. 37.12 (possibly a repeater, input frequency is unknown) for their primary operations during the daytime. 37.12 is the TCSO want/warrant check channel. 37.12 is not used at night by the constables except for wanted/warrant checks and in emergencies. (Editor's note: Presumably the constables switch to the TCSO Patrol dispatch ch. at night.)
--Tarrant County S.O. uses the same 10-codes as the Texas DPS. (see Feb. 84 column)
--the city of Euless PD is now operating on 800 MHz (conventional type) for their primary dispatching operations. (Editor's note: Yes, the future has come to Texas.) Brad confirms active operations on both 854.9875 and 855.2375 MHz,

using a Hamtronics converter. At the present time Euless PD does not employ DVP. (Let's hope they don't either!) Brad does not have enough info as yet to determine what each frequency is used for specifically.

-- a few more frequencies Brad found under the misc. category:

451.100 R WBU 719--731 City of Arlington Water Dept.
47.98 S KKC 756 Denton Co. Water District
156.180 S? KKR 393/WFR 379 City of Ft. Worth Street & Sanitation Depts. (add'l channel)

--Brad still needs codes for Arlington PD. (Can anyone help?)
--Brad is still diligently working on an update to the Ft. Worth PD report. (Editor's note: My microfiche file shows an 800 MHz (trunked type) license for the City of Ft Worth PD. So far no idea what it is used for--if it's even active.)

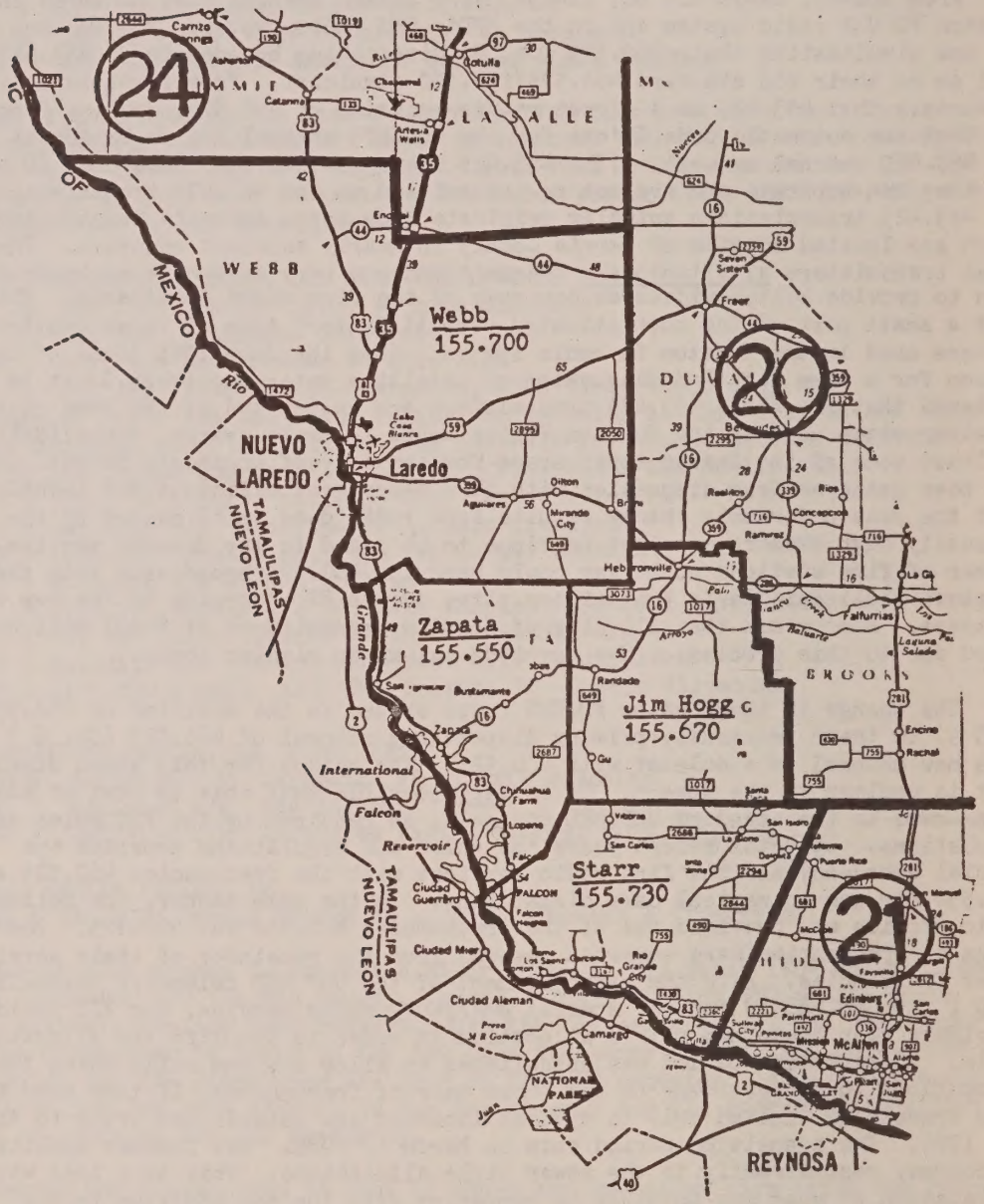
From ROBERT, TX-76 and ED, TX-45: Very sudden changes have occurred in the Houston FD UHF radio system and in the HFD's EMS radio system. The Houston FD is now simulcasting their 460.575 (Ch. 8) dispatching broadcasts on 453.425 as well as on their old standard 460.575/154.160 simulcast. From first hand listening it appears that 453.425 is a direct re-transmission of 460.575, judging from the fact the automatic code ID'ers for the 460.575 channel are re-broadcast on the 453.425 channel as well. (The 453.425 transmissions also have code ID'ers but they are separate and are not re-transmitted on the 460.575 transmissions.) The 453.425 transmissions actually originate from three separate transmitters which are located outside of Harris County in nearby adjacent counties. These three transmitters simultaneously transmit under a very carefully engineered plan to provide better wide-area coverage of the fire alarm broadcasts. This is just a small part of the sophisticated overall "voter" type of receivers/transmitters used in the Houston FD radio system. (See the June 1981 issue of this column for a more detailed discussion of satellite voter receivers.) It is believed that the three 453.425 transmitters are co-located at the same voter receiver sites used by the Houston Police Dept. in their system, consolidating at least some of the leased tower space for the city of Houston's budget. It has been gathered from discussion with fire department officials and technicians that the reason for this change results from radio dead spots caused by the unusually high skyscrapers that continue to be added to the Houston skyline. A number of fire stations no longer could hear the 460.575 broadcasts from the downtown Shell Building's transmitter site, due to RF shadowing by the new skyscrapers. Rumors are that all city of Houston transmitters at Shell will be moved due to this problem. (See Nov 1982 column on similar topic.)

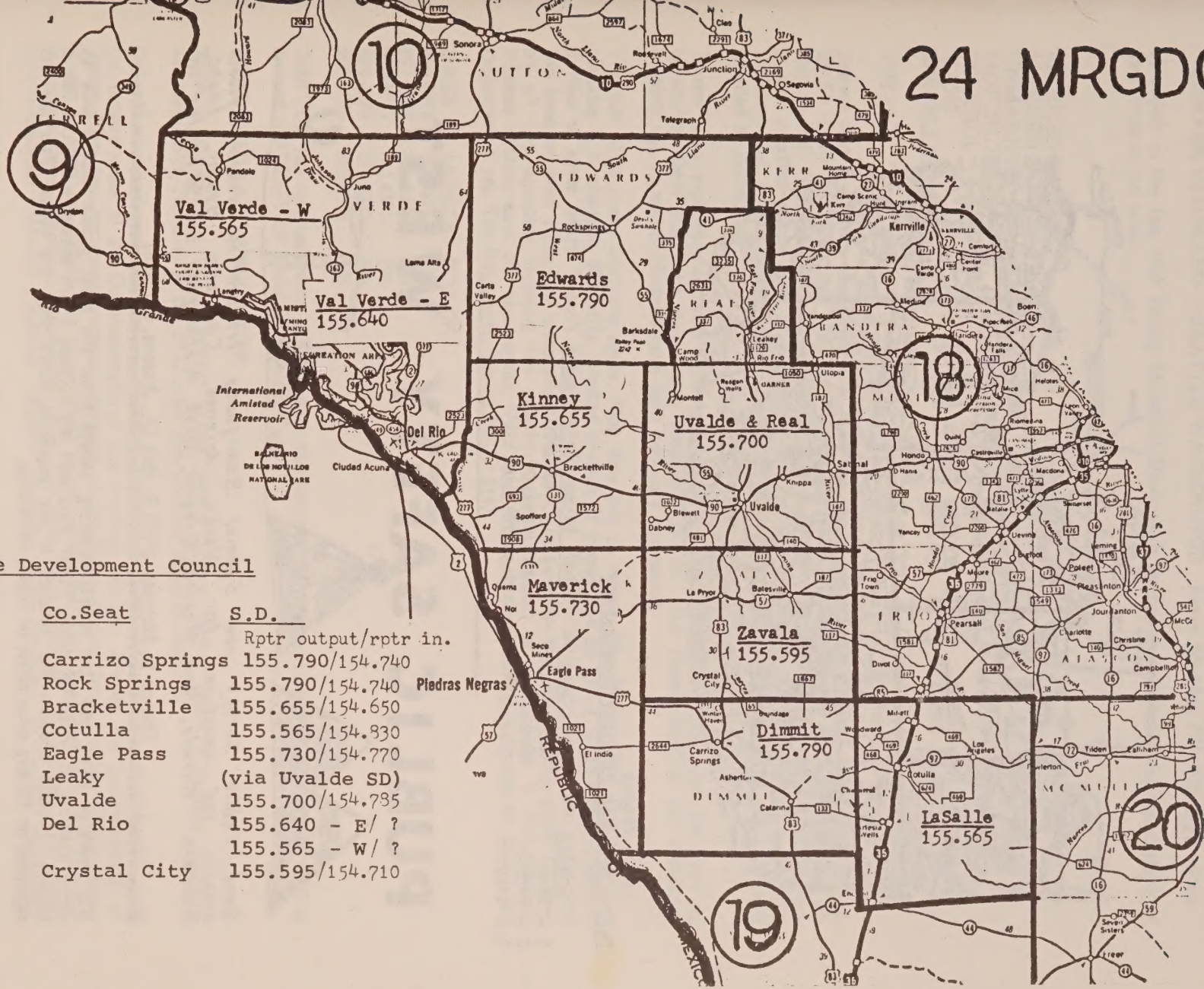
The change in the Houston FD/EMS radio system is the addition of 462.950 (MED 9) to their previously primary dispatching channel of 460.525 (Ch. 6) This new channel is simulcast with 460.525. The reason for this added simulcast is unclear at the moment. It is very possible that this is part of some phase-over to the standard UHF MED channels, as required by the FCC rules and regulations. Up until recent years the rules and regulations provided the special emergency and the fire radio services with the frequencies 460.525 and 460.550 for use in medical care dispatching. In the same manner, the police radio service was provided use of the frequencies 462.950 and 462.975. Both pairs of frequencies were somewhat removed from the remainder of their services other frequencies. With the establishment of the UHF MED telemetry channels (MED 1 through MED 8) for the special emergency radio service, the FCC decided to simply swap these two pair's allocations in order to simplify the allocation table. A transition period was established to allow systems still using the old allocations to convert over to the other pair of frequencies, if they used them. This transition applied only to systems licensed and established prior to April 16, 1976. The transition period ends on March 1, 1986. New license applications, of course, went directly to the newer style allocations. This is a long winded explanation of what may possibly be happening with the new addition to the Houston FD/EMS radio system. If anyone has any better word of explanation, please let us know.

From PHIL, TX-97 and KEN, TX-3: Pierce DPS has, in recent days, been observed starting use of the frequency 155.445 for secondary use dispatching using the same callsign as their primary dispatching channel--KUZ 831. It is used for giving lengthy 10-28's and the like. No simulcasting along with 155.460 has been observed as yet. From some tropo skip experience, the Waco DPS office has also been observed using 155.445 for the same usage. Judging from the latest available microfiche license files, the use of 155.445 by the state DPS will begin sprouting up all over the state. Let's have some further feedback on this very interesting new feature of the state DPS radio system. (Editor's note: Thanks, Phil, for confirming what I heard on tropo.)

And now to draw this column to a conclusion for this month we present what appears to be the final series of travel maps as prepared by Dave, TX-32. We certainly appreciate the efforts Dave went through to prepare these fine graphics for our use. And now we shall say so long until next month.

19 STDC


24
20
21
LA SALLE
WEBB
Webb
155.700
NUEVO LAREDO
Laredo
MEXICO
Rio
TAMAULIPAS
NUEVO LEON
Zapata
155.550
Jim Hogg
155.670
Starr
155.730
International
Falcon
Reservoir
Ciudad Guerrero
Ciudad Mier
Ciudad Aleman
Camargo
NATIONAL PARK
REYNOSA
McAllen
Edinburg
Hebbronville
Falfurrias
Encino
Rachal
Concepcion
Ramirez
Rios
Realitos
Oilton
Agualares
Miranda City
Rio Grande City
Roma
Los Saenz
Garciasville
Falcon Heights
Chihuahua Farm
Loperena
Yturria
Rancho Viejo
Puerto Rico
Palmhurst
Palmview
Weslaco
Mercedes
Donna
Progreso
Pharr
Alamo
San Carlos
Seven Sisters
Freer
Benavides
Realitos
Arroyo
Laguna Salado
Encino
Rachal
Santa Cruz
Yturria
San Isidro
Puerto Rico
Donna
Progreso
Pharr
Alamo
San Carlos
Edinburg
McAllen
Weslaco
Mercedes
Palmhurst
Palmview
Rio Grande City
Roma
Los Saenz
Garciasville
Falcon Heights
Chihuahua Farm
Loperena
Yturria
Rancho Viejo

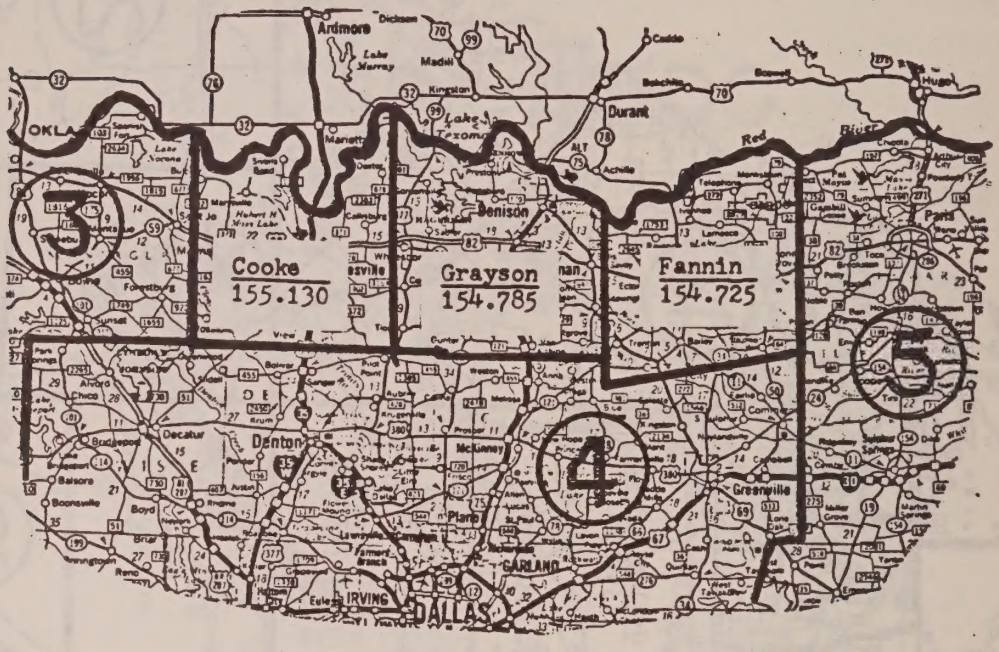


24 -- MRGDC

Middle Rio Grande Development Council

	County	Co.Seat	S.D. Rptr output/rptr in.
1 -	Dimmit	Carrizo Springs	155.790/154.740
2 -	Edwards	Rock Springs	155.790/154.740
3 -	Kinney	Bracketville	155.655/154.650
4 -	LaSalle	Cotulla	155.565/154.830
5 -	Maverick	Eagle Pass	155.730/154.770
6 -	Real	Leaky	(via Uvalde SD)
7 -	Uvalde	Uvalde	155.700/154.785
8 -	Val Verde	Del Rio	155.640 - E/ ?
			155.565 - W/ ?
9 -	Zavala	Crystal City	155.595/154.710

22 TEXOMA



22 -- TEXOMA
Texoma Regional Planning Commission

County	County Seat	Rptr output/Rptr input
1 - Cooke	Gainesville	155.130/155.970
2 - Fannin	Bonham	154.725/155.910
3 - Grayson	Sherman	154.785/155.850

PUBLIC SAFETY WEST

Send Public Safety and Special Emergency frequencies, radio system details and questions for Alaska, Arizona, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming to:

George N. Hoggatt, 17473 E. 16th Dr., Aurora, CO 80011

****

It's really a short one this month. Nothing except from the local people that I talk to every week or so. WHERE ARE YOU? This isn't my column, I just assemble it. And like a factory, I can't produce the product if my suppliers won't ship the parts. You are the suppliers so I'll say once more, no input, no column.

NEW RADIOS continued Tim Tonge MO-070

More news on the Regency radios. The MX-5000 mentioned last month is being shipped, at least in small quantities. One has been delivered in Denver and more are on the way. The price is supposed to be $600. If so I'll go to England and pick up one there (the difference won't pay the air fare but it makes a good excuse to go.) The MX-7000 is also still in the works as a 25 MHz to 1.2 GHz continuous, by summer, at a price of $700 to $800. Remember that it was originally scheduled to be out last September too. $800 for a 20 channel machine? It will have to be pretty good to get me to pay

that, crazy as I am. (I am listening to three scanners, a ham radio and TV right now while I type. Maybe that is why I have to go back and retype so much.) The MX-5000 is made in Japan.

DENVER COLORADO - SEATTLE WASHINGTON Joyce Madden CO-032 & ye editor

A report in the Jan. 16th Rocky Mountain News gave figures on the Police vehicle strength of two cities in our area.

	DENVER	SEATTLE
MARKED PATROL	69	122
MARKED NON-PATROL	99	36
UNMARKED	288	101
MOTORCYCLES	86	37
CONTROL	34	55
VANS	14	0
MISCELLANEOUS	46	20
TOTAL	636	321

Denver has the most unmarked cars, and the most motorcycles. Denver has a fairly large traffic force and also has the TAC units that in warm weather are motorcycle patrol on Capitol Hill. The 69 marked cars reported are one for each precinct. In Denver the precinct is the smallest patrol unit. The non-patrol cars are used by the Traffic Division, Juvenile Division and in the motor pool. The pool cars are available for patrol too, but weren't counted in this survey.

Denver also experimented with horse patrols during the Stock Show this year. No word on continuing them but they have been proposed for the 16th Street Mall if the droppings problem can be solved (diapers have been seriously suggested).

The 800 MHz rumor surfaces again. This time it's no rumor. The Denver Fire Department is planning a 15 channel, 800 MHz, trunked system. If money can be found, it may be operational in two to three years. I can't reveal the source of this information but it is not rumor and has been received from two independent sources. It is possible that this system could be used by all city agencies including the police. Stapleton Airport is licensed for a five channel, trunked system now. All the regular VHF and UHF channels are still in use so that's not implemented yet. The frequencies are (GROUP 218):

BASE	MOBILE	FCC CH.
856.4375	811.4375	218
857.4375	812.4375	258
858.4375	813.4375	298
859.4375	814.4375	338
860.4375	815.4375	378

DENVER has another minor call change - the helicopters are now known as AIR-1 and AIR-2 instead of CHOPPER 1 and CHOPPER 2.

MISC. COLORADO NEW STUFF

State of Colorado - 2327.4, 2467.4, 2472.4, 2475.4, 5136.4, 7803.4, 7806.4 KHz.Note kilohertz not megahertz. The note in the FCC rules that governs these channels is:

Only the central governments of the fifty individual States, the District of Columbia, and the insular areas of the Commonwealth of the Northern Mariana Islands, the Commonwealth of Puerto Rico, and the unincorporated territories of American Samoa, Guam and the United States Virgin Islands are eligible to be licensed to use this spectrum, and then only for disaster communications purposes. Licensees may not use this spectrum to provide operational communications circuits. Section 90.264 contains more details if you're interested.

ESTES PARK has a new local government license on 159.315.

HINSDALE COUNTY has a new system on 154.995/155.775. The microfiche doesn't show enough the tell which is mobile and which is repeater.

BOULDER COUNTY has a license on 155.160 (National Search and Rescue)

THE JEFFERSON COUNTY AIRPORT has a business license on 464.825.

CLEAR CREEK COUNTY on 462.600 repeater, 467.800 input (General Mobile Service)

Public Safety - West continued

Many fire departments are being licensed on FERN-2 154.280.

More and more police departments are licensed on NLEEC 155.475

PALMER LAKE has a local government license on 154.115

****

The Rocky Mountain Division of the American Radio Relay League will hold its annual convention in Aurora Colorado over Memorial Day Weekend, May 25, 26 and 27. Even if you're not a ham, it might be of interest. There will be a swap meet and should be lots of equipment for sale plus many dealers and manufacturers will be there. Registration is $5 in advance or $7 at the door. The convention center has made a special deal on rooms, up four per room at the price for two. For more information contact Bill Sheffield, 1444 Roslyn St., Denver, CO 80220 (303) 355-6400 or 355-2488.

George

CALIFORNIA HIGHWAY PATROL

San Bernardino Area Charles (CA-LA-057)

Primary Freq.	Secondary Freq.
42.60 B	Blue
Copper 42.74 M	

INLAND Division Office

1 - Division Chief
2 - Asst. Chief
3 - " "
4 - Lt. Support Section
5 - Lt. Auto Theft
6 -
7 - Sgt. Public Affairs Officer
8 -
9 - Recruiter
10 - Auto Theft
11 - " "
12 - " "
13 - " "

75 - San Bernardino Office

C - Captain
L - Lt.
S - Sargeant
D1-6 Office Staff
D15 - 16 Scale Staff

Beat Areas

1 - IS 215 from IS 10 to Oak Hills
2 - East S.B. Valley (Highland)
3 - IS 10 from Walbash Ave to Pepper
4 - IS 10 from Pepper to Etiwanda Ave
5 - IS 15 from Etiwanda to Devore

Public Safety - California continued

Beat Cars

1st digit is Beat area
2nd digit is Section #
A 2-digit unit, e.g., 75-30, is primarily a freeway unit.
A 3-digit number, e.g., 75-210, is primarily a surface unit.

Special Units

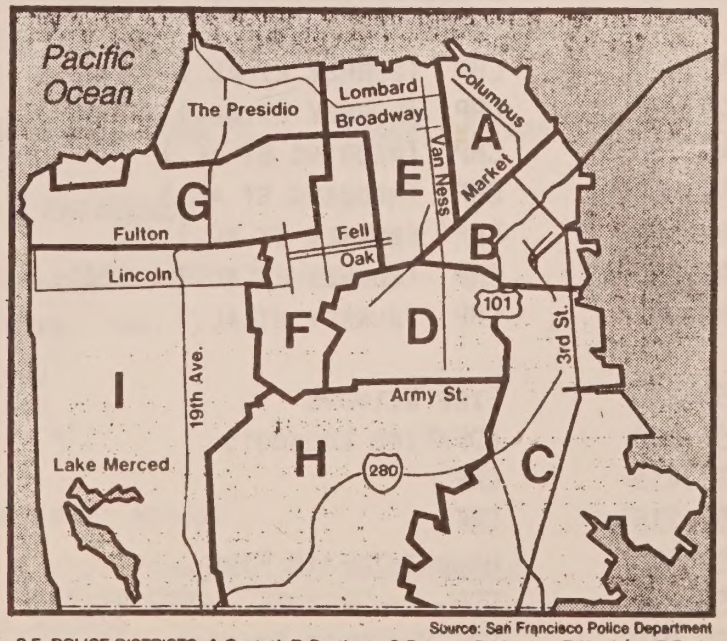
210 - Unincorporated area of Highland
410 - " " Fontana (Valley Blvd)
510 - Little Creek Area
850 - Commercial Officer
X - A 2-man unit whose primary duty is to apprehend DUI's.
T - (Tom) A 2-man unit which primarily works Auto Theft.

Active Public Safety Freequencys in the San Bernardino Area:

155.970	S.B.County Sheriff F-1 "Control" Main S.O. Channel in Valley
154.920	CLEMARS SBSO F-3. Car to Car. Mutial Aid .Sometimes scrambled.
155.665	S.B.City Police F-1
156.210	S.B.City Police F-3 Records Checks & Car to Car
155.805	Redlands Police
154.740	S.B.Sheriff F-4 Note: many other south valley PDs also use this Freq.
42.60	C.H.P. Base. "San Bernardino" Dispatches for valley and arrowhead.
42.74	C.H.P. Mobile Other side of 42.60
151.445	C.D.F. & SB County Fire'Local West "
151.265	C.D.F. Region Net
151.355	C.D.F. State Net
154.385	S.B.City Fire "Orange"
154.190	County Fire "Green" Redlands, loma Linda, Colton, Central ValleyFPD.
154.325	County Fire "RED" Mutial Aid
33.64	'Mountain Yellow" San Bernardino Mtn. Fire Protection Districts.
171.475	U.S.F.S. SBNF F-2 Fire Dispatch
155.115	S.B.County LG , Marshall, D.A., Amnial Control , HazMat.
47.16	CalTrans
155.340	HEAR Net
155.400	MED Net
463.100	COR-5 St Beradines Hosp.
468.100	" " "
413.375	U.S.A.F. NAFB Fire
39.04	C.D.C. Chino, Patton
39.10	" " "
460.075	SB.City Unified School District Police

SAN FRANCISCO POLICE DISTRICT BOUNDARIES AND FREQUENCY ASSIGNMENTS

From DAVID (CA-SF-025)



Source: San Francisco Police Department

S.F. POLICE DISTRICTS: A Central, B Southern, C Potrero, D Mission, E Northern, F Park, G Richmond, H Ingleside, I Taraval

Public Safety - California continued

LOWBAND 1: 45.1000 mhz: RICHMOND (G Company); INGLESIDE (H Co.)
TARAVAL (I Co.)
LOWBAND 2: 45.1400 mhz: MISSION (D co.); POTRERO (C Co.)
LOWBAND 3: 45.5800 mhz: CENTRAL (A co.); SOUTHERN (B Co.)
LOWBAND 4: 45.4600 mhz: NORTHERN (E Co.); PARK (F Co.)
HIGHBAND 5: 155.5500 mhz: SFPD INSPECTORS -ADMINISTRATIVE; UCSFPD DISPATCH
CITYWIDE 1: 460.4500 mhz: TOWDESK, PARKING ENFORCEMENT
CITYWIDE 2: see PIC (PORTABLE INSTANT COMMUNICATIONS) 2
CITYWIDE 3: 460.3500 mhz: TACTICAL (For TAC units and MULTIDISTRICT OPERATIONS)
PIC 1: 460.2250 mhz: Same as LOWBAND 1 assignment
PIC 2: 460.1250 mhz: Same as LOWBAND 2 assignment
PIC 3: 460.5000 mhz: Same as LOWBAND 3 assignment
PIC 4: 460.0750 mhz: Same as LOWBAND 4 assignment

RELATED FREQUENCIES:

PRESIDIO MILITARY POLICE: 148.6000 mhz (Dispatch)
150.7000 mhz (Secondary)

LOCAL GOVERNMENT: 158.7600 mhz Users: SFPD calling Central Emergency (Medical)
SFPD calling MAP (drunk pick-up)
S.F. Sheriff Operations
Golden Gate Park Patrol

EASTERN SHASTA COUNTY

FREQUENCY	COMMUNICATIONS SERVICE	REMARKS
158.730	SHASTA COUNTY SHERIFF	BURNEY DISPATCH (CH. 1)
154.920	" " "	STATE-WIDE CO. NET (CH. 2)
154.680	" " "	STATE OF CA NET (CH. 3)
155.190	" " "	DETECTIVE FREQ. (CH. 4)
155.700	" " "	LOCAL CO. NET. (CH. 5)
154.650	" " "	(CH. 6)
154.815	" " "	BURNEY REPEATER INPUT FREQ.
46.040	EMERGENCY (HOSPITAL/AMB.)	SHASTA CO. NET
155.220	" "	75 MOBILE UNITS IN NETWORK
155.340	" "	60 MOBILE UNITS IN NETWORK
155.460	STATE OF CALIFORNIA	POLICE NETWORK
42.440	CHP (BURNEY ET AL.)	BASE "RED" (MAIN FREQ.)
42.280	CHP (BURNEY ET AL.)	MOBILE "RED" (MAIN FREQ.)
42.120	CHP (REDDING ET AL.)	"GOLD"
42.560	CHP (REDDING ET AL.)	"WHITE"
42.540	CHP (BURNEY ET AL.)	"GREEN"
42.340	CHP (BURNEY ET AL.)	BASE "BLUE"
42.000	CHP (BURNEY ET AL.)	MOBILE "BLUE"
154.430	FIRE NETWORK	SCS/CDF/RPD (CH. 3)
151.160	CDF/FIRE LOOKOUTS	
151.415	CDF	LOCAL DISPATCH
151.215	CDF	REGION II NETWORK
151.295	GROUND-TO-AIR FIRE	
159.270	CDF	REPEATER
150.010	CDF WHITMORE STATION	

171.575	SHASTA NATIONAL FOREST	REPEATER
415.375	" " "	POINT-TO-POINT
172.225	LASSEN NATIONAL FOREST	REPEATER
153.755	OES FIRE NETWORK	
154.160	OES FIRE NETWORK	
154.325	CITY OF REDDING FIRE	DISPATCH (CH. 1)
154.400	" " " "	(CH. 2)
155.580	CITY OF REDDING POLICE	DISPATCH (CH. 1)
154.860	" " " "	(CH. 2)
154.890	" " " "	25 MOBILE UNITS IN NET.
154.740	" " " "	25 MOBILE UNITS IN NET.
155.985	SHASTA COUNTY GOVERNMENT	BURNEY FREQUENCY
155.895	" " "	140 MOB.; 10 HH
155.805	CITY OF REDDING GOVERNMENT	15 MOBILES IN USE
155.880	" " " "	20 MOB.; 5 HAND HELDS
458.400	" " " "	15 MOBILES IN USE
154.980	STATE OF CALIFORNIA	LOCAL GOVT. (REDDING)
155.280	COMMUNITY COLLEGES EMERGENCY	SHASTA/TEHEMA/TRINITY
155.535	COMMUNITY COLLEGES POLICE	NETWORK
47.100	CAL-TRANS [ROAD REPAIR]	MAIN FREQUENCY
47.080	" " "	CONSTRUCTION
154.280	SHASTA COUNTY FIRE NETWORK	REDDING & CO. (50 MOB.)
453.000	" " " "	REPEATER
458.000	" " " "	"
162.545	WEATHER FROM NORTH FORK MT.	IMAGE APPEARS ON 141.155
27.065	CB CHANNEL 9 EMERGENCY	

Mammoth Lakes, Mono County

151.655	Mammoth Outfitters, Inc.
151.685	Heli-ski, Inc.
151.805	Main Lodge KZA563
151.835	Main Lodge KZA563
151.895	Ski School "Office"
151.925	Racing Clinic
153.95	Fire KWF759
154.025R	Mono County EMS "SME" KDA355
154.34	Fire Frequency 2
154.43	Fire "Mammoth" KWF759 "Long Valley Base" KKG588
154.80 R	Monó County SO (155.70 CTRL) "Mono 2"
155.205	School District WRG850
155.895	Mono County Govt? "Yellow 2" WCA872

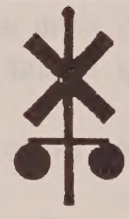
Public Safety - California continued

155.01 Bishop PD
168.125R Inyo Nat'l Forest
851.3875R Ski Patrol WZF966

Misc. Businesses:
151.715 Glass Co.
151.745 Construction Co.
151.775 Racquetball Club
151.925 Locksmith
151.955 Condominiums
152.36 Construction Co.
152.42 Construction Co.
152.45 Taxi/Bus Service
153.245 Masonry Co.
153.395 Construction Co.
154.54 Electrician
157.56 Condominiums
157.62 Mammoth Outfitters, Inc.
157.68 Refuse Collection
158.46 Construction Co.

No activity monitored, but listed by the FCC:
155.16
155.34

1/26/84 CA·VE·011



Railroads

Gary L. Sturm and
Bill Farmer, Editors

Send information about railroad frequencies and their uses, railroad radio system details, and related questions to:

Gary L. Sturm, 1506 W. Hively Ave., Elkart, IN 46517

Greetings once again from your Railroads Column. We'll get right down to business this month with some exciting news for steam fans.

WORLD'S FAIR DAYLIGHT

Plans have been finalized to operate a special steam-powered passenger train from Portland, Oregon to New Orleans, Louisiana this May to celebrate the opening of the World's Fair there. The train is being called the "World's Fair Daylight" because it will be powered by former Southern Pacific Daylight-type steam locomotive #4449 and all of the equipment will be painted in the famous Southern Pacific Daylight paint scheme of red, orange, and black. In addition, all segments are scheduled during daylight hours. The 12-car special is being operated by the Pacific Northwest Chapter of the National Railway Historical Society in conjunction with local railroad-interest organizations, with the assistance of Southern Pacific, the 1984 Louisiana World Exposition, and the City of Portland, Oregon which owns the locomotive.

Tickets to ride the special train are available to the public. Sales for each segment of the trip are being handled by a local organization in that geographical area. If you would like more information, send a self-addressed stamped envelope to the organization(s) listed for the segment(s) you are interested in. Here is the train's schedule:

Segment Terminals	Days	Dates	Contact
Portland OR to Sacramento CA (overnight at Klamath Falls OR)	Sat./Sun.	May 5 & 6	(1)
Sacramento CA to San Francisco CA	Tues.	May 8	(2)
San Francisco CA to Los Angeles CA (overnight at Fresno CA)	Fri./Sat.	May 11 & 12	(3)

Railroads continued

Los Angeles CA to Phoenix AZ (overnight at Yuma AZ)	Tues./Wed.	May 15 & 16	(4)
Phoenix AZ to Tucson AZ	Fri.	May 18	(5)
Tucson AZ to El Paso TX	Sat.	May 19	(6)
El Paso TX to San Antonio TX (overnight at Alpine TX)	Mon./Tues.	May 21 & 22	(7)
San Antonio TX to Houston TX	Thurs.	May 24	(8)
Houston TX to Dallas TX	Sun.	May 27	(8)
Dallas TX to Houston TX	Thurs.	May 31	(8)
Houston TX to New Orleans LA (overnight at Lafayette LA)	Fri./Sat.	June 1 & 2	(8)
New Orleans LA to Houston TX	Sat.	June 9	(8)
Houston TX to San Antonio TX	Sun.	June 10	(8)
San Antonio TX to El Paso TX (overnight at Alpine TX)	Mon./Tues.	June 11 & 12	(7)
El Paso TX to Tucson AZ	Thurs.	June 14	(6)
Tucson AZ to Phoenix AZ	Fri.	June 15	(5)
Phoenix AZ to Los Angeles CA (overnight at Yuma, AZ)	Sat./Sun.	June 16 & 17	(4)
Los Angeles CA to San Francisco CA (overnight at San Luis Obispo CA)	Tues./Wed.	June 19 & 20	(3)
San Francisco CA to Sacramento CA	Thurs.	June 21	(2)
Sacramento CA to Portland OR (overnight at Klamath Falls OR)	Sat./Sun.	June 23 & 24	(1)

For more information, contact:

(1) Pacific Northwest Chapter, NRHS
Room 1, Union Station
Portland, OR 97209

(2) Bay Area Electric Ry. Assn.
P. O. Box 3694
San Francisco, CA 94119

(3) Central Coast Chapter, NRHS
P. O. Box 8407
San Jose, CA 95115

(4) Pacific Railroad Society/
Orange Empire Railway Museum
P. O. Box 2858
Riverside, CA 92516

(5) Arizona Chapter, NRHS
8337 E. Cypress
Scottsdale, AZ 85257

(6) Old Pueblo Chapter, NRHS
1715 East Waverly St.
Tucson, AZ 85719

(7) Southwest Chapter, R&LHS
1951 Octubre
El Paso, TX 79935

(8) Gulf Coast Chapter, NRHS
P. O. Box 457
Houston, TX 77001

When the 4449 operated in 1981, SP channel 4 (161.400 MHz) was heavily used by SP police and other officials involved with the special train. It is expected that channel will again be used this year. In addition, Pacific Northwest Chapter of NRHS has used business band walkie-talkies on some of its special train operations. 3-watt itinerant frequencies such as 154.515, 154.570, 154.600, etc. would be likely places to look for such activity. It has also been suggested that motion picture frequencies might be used in the event radio equipment is rented for use on the train.

MOTOROLA SYNTOR RAILROAD RADIOS

New locomotives being manufactured by EMD for various railroads such as Burlington Northern, Seaboard System, and Conrail are having Motorola RSX-410 Series Syntor radios installed in them. The RSX-410 Railroad Radio utilizes a single "PROM Module" to define the transmit and receive frequencies, rather than individual crystals for each channel as in older models. (PROM is a term from the computer field meaning Programmable Read-Only Memory. It is a type of memory device that is programmed at the factory and retains the information even when power to the radio is turned off.) The PROM Module contains up to twelve frequency pairs, corresponding to the twelve positions of the channel selector switch. The PROM Module is inserted into a slot in the radio's front panel and is easily removed. Additional PROM Modules are available as accessories with factory-programmed frequencies. They are externally identified with eight characters on the front. The PROM can be secured against unauthorized removal if desired.

The PROM concept will make frequency changes easier and cheaper. Locomotives can operate on other railroads and have full coverage of that railroad's frequencies merely by changing the PROM, rather than changing the entire radio as has been the practice. Wideband receiver and transmitter circuitry make it unnecessary to retune the radio when changing PROMs within the VHF railroad band. The price of a PROM is approximately the cost of one channel's crystal pair in older models.

RSX-410 Specs and standard features:

Number of channels:	12
Frequency range:	150.8 - 174 MHz
Maximum Frequency Separation without degradation:	2 MHz
RF Power Output:	45 watts
Frequency Stability:	.0002 %
Audio Power Output:	10 watts
Receiver Sensitivity for 20 db quieting:	0.5 uv no preamp
	0.25 uv w/ preamp

Power requirement: 12 vdc for cabooses or 64 vdc for locomotives
PROM Module Lock provided on all units

RSX-410 Options:

Two or four dispatch tones are available for selective signalling of the desired dispatcher station
Time-Out Timer eliminates transmitter lock-up by shutting the transmitter off after a predetermined transmit period
Handsetless built-in microphone
Remote handset and speaker capability
Pre-Amplifier increases receiver sensitivity in hard-to-reach areas

SEABOARD AND CONRAIL SYNTOR CHANNELS

from SCOTT (Downers Grove, IL)

Here are the channels that two railroads are having programmed into the radios for their new SD-50 locomotives. The Conrail Foreign Mode channels are revised from the listing shown in the November 1983 Railroads Column.

SEABOARD SYSTEM

Channel	Transmit	Receive	Description
1	161.370	161.370	L&N Road
2	161.520	161.370	L&N Dispatcher
3	160.590	160.590	SCL Road #1
4	161.100	161.100	SCL Road #2
5	160.860	160.860	Clinchfield Road
6	161.310	161.310	Georgia, West Point Road
7	160.230	160.230	Chessie Road #1
8	160.320	160.320	Chessie Dispatcher #2
9	161.550	161.550	RF&P Road
10	161.490	161.550	RF&P Dispatcher
11	160.950	160.950	Southern Road
12	160.830	160.245	Southern Dispatcher

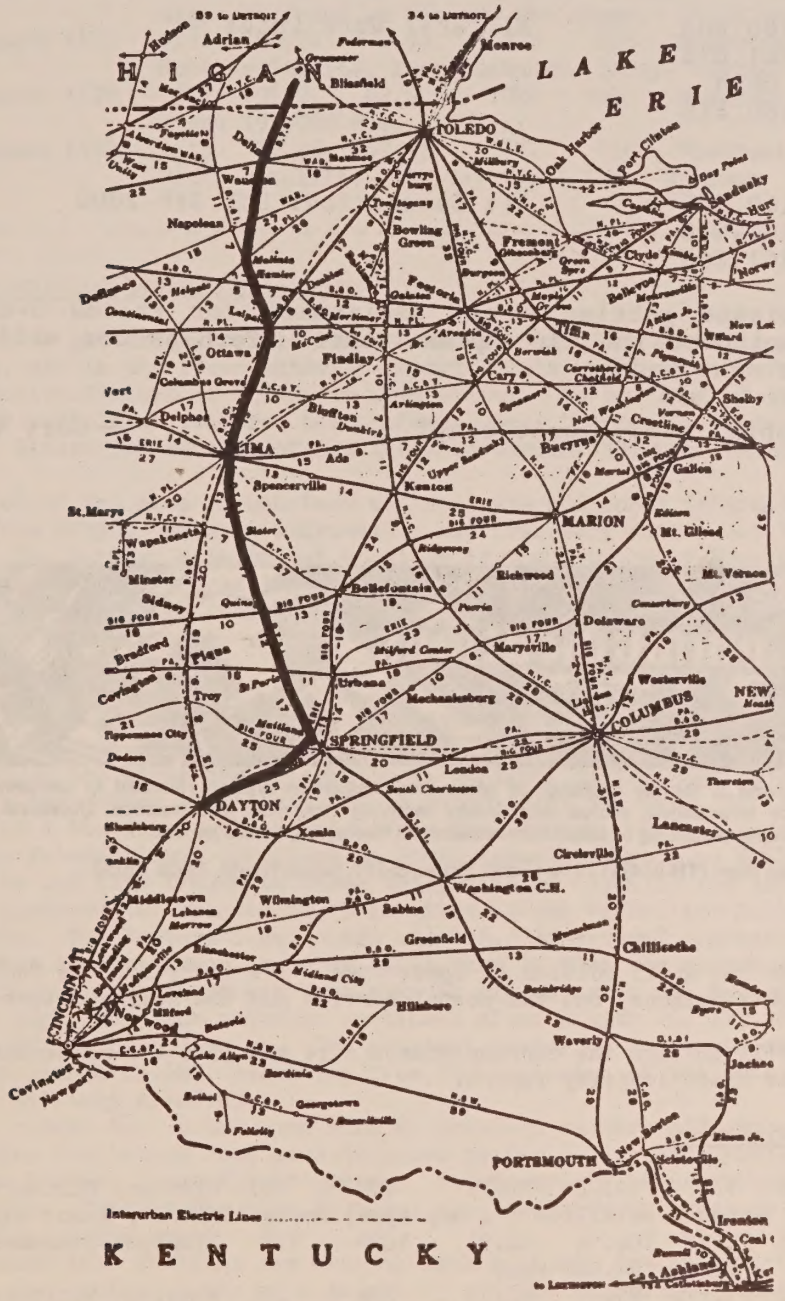
CONRAIL (Motorola Syntor RSX-410-32)

	Conrail Mode	Foreign Mode		
Channel	Xmit & Receive	Transmit	Receive	Description
1	160.800	160.320	160.320	Chessie Road
2	161.070	160.410	160.410	MoPac Road
3	160.860	160.650	160.650	Santa Fe Road
4	160.980	160.770	160.770	MILW Road
5	160.245	160.890	160.890	C&NW Road
6	160.410	160.920	160.920	Amtrak NEC
7	160.995	160.935	160.935	CN-3 Road
8	161.055	160.950	160.950	Southern Road
9	161.400	161.100	161.100	BN Road
10	161.430	161.160	161.160	BN Yard
11	160.335	161.190	161.190	N&W Road
12	160.350	161.280	161.280	Metro North Road
13	160.470	161.415	161.415	CN-1 Road
14	161.340	161.520	161.160	B&M Road
15	161.385	161.520	161.370	L&N Road
16	161.460	161.550	161.550	SP Road

Editors' notes: In the Conrail Foreign Mode, 160.320 is listed as the Chessie Road Channel. Chessie's actual road channel is 160.230; 160.320 is their dispatcher channel. CN-3 is listed as a road channel; actually it is a dispatcher channel. The B&M channel listed is a dispatcher channel and not road; their road channel is 161.400 MHz. The L&N channel listed is for the dispatcher and not the road channel which both receives and transmits on 161.370 MHz. Channel 6 in the Foreign Mode lists the road channel which Amtrak had been planning to install in the Northeast Corridor. Recently Joe (MD-015) reported to us that Amtrak has decided to stay on the Conrail frequencies (160.800 and 161.070) instead of switching to 160.920.

THE DAYTON FLYER ROUTE

Following up on Gary's article last month on the Dayton Flyer, here is a map showing the route the train followed:



AMTRAK FREQUENCY UPDATE

Joe (MD-015) sent in some updates to the Amtrak frequency listings in the September 1983 Railroads Column. He says all assignments remain the same except the ones listed below.

RAILROAD	FREQUENCY	TRAIN NUMBERS WHERE USED
Run Number A-014		
Amtrak	160.800	All AEM-7 Runs "Trackstar"
Metro	161.070	Shifters "Motran"
		42-43, 44-45, All Philadelphia-Harrisburg MU runs
Run Number B-014		
Amtrak-CR	160.800	All E-60 Runs
Metro	161.070	All diesel runs on Northeast Corridor
		40-41 Philadelphia-Chicago
		46-47 Philadelphia-Pittsburgh
Run Number A-015		
Amtrak	160.800	All GP-7 Work Locos
Metro	161.070	
(Chan. 3)	OPEN	
Amtrak MofW	160.515	
Run Number A-018		
Amtrak-met	160.800	All Connecticut DOT SVP-2000
Metro	161.070	
Metro North	161.280	

Somehow we missed getting a new assignment for trains 5-6 when they were rerouted over the Rio Grande route. Perhaps Joe will send it to us with his next update.

Until next month, happy monitoring! —Gary & Bill

This column is for the exchange of space communications systems (manned or unmanned), frequency information, orbital data, hobby receiving equipment and antennas. Questions and column input pertaining to Space Communications Monitoring should be sent to:

Larry Van Horn (TN-014), 1111 N. Carrier Pkwy., B-107, Grand Prairie, Texas 75050.

Welcome all to the April edition of Space Comm. I'm sorry for the foul up in the last two month's columns, but the postal service and the holidays took its toll.

This month we'll go thru the correspondance file and give the membership an explanation of the Space Activity report.

Space Activity Report

119A	Cosmos 1512	12/7	90.34	72.79	409	207	Mission: Military Photo Recon satellite (14 day type) Decay 12/21/83, Xmsn: unknown
120A	Cosmos 1513	12/8	104.94	82.94	1029	976	Mission: Standard NAVSAT Xmsn: 150.000 Mhz.
121A	Cosmos 1514	12/14	89.29	82.33	286	224	Mission: Military Photo Recon satellite (14 day type) Decay 12/19/83, Xmsn: unknown
122A	Cosmos 1515	12/7	97.78	82.52	676	650	Mission: Oceanographic satellite, Xmsn: unknown
123A	Molniya 3-22	12/21	736.11	62.79	40199	661.4	Mission: Domestic COMSAT Xmsn: 3650-3700; 3750-3800; 3850-3900 Mhz.
124A	Cosmos 1516	12/27	89.23	64.88	298	204	Mission: Military Photo Recon satellite (long duration), Xmsn: UHF 240 Mhz. on command only.

125A	Cosmos 1517	12/27	88.45	50.66	224	185	Mission: Man related, Wing vehicle test. Kosmolyot type vehicle landed in the Black Sea one orbit after launch. Xmsn: unknown(difficult to determine do to short orbital period and no notice launch.)
126A	Cosmos 1518	12/28	709.21	62.90	38674	615	Mission: Early Warning satellite, Xmsn: 2292; 2280-2304 Mhz.
127A	Cosmos 1519	12/29	672.99	64.85	19143	19009	Mission: New GPS type NAVSAT series, Xmsn: 1250/1603.5 Mhz.
127B	Cosmos 1520	12/29	673.34	64.62	19144	19027	Mission: same as 1519
127C	Cosmos 1521	12/29	676.44	64.67	19241	19060	Mission: same as 1519

1984

1A-1H	Coamos 1522-1529	1/5	115.0	74.00	1532	1406	Mission: 8 satellite launch-- Tactical COMSATs, Xmsn: I believe that the telemetry might be found in the 400 Mhz range. Still to be determined.
2A	Cosmos 1530	1/11	90.11	72.88	391	203	Mission: Military Photo Recon satellite, Xmsn: unknown, Decay- 1/25/84
3A	Cosmos 1531	1/12	105.0	82.90	1022	993	Mission: Standard NAVSAT Xmsn: 150.000 Mhz.
4A	Cosmos 1532	1/13	89.48	67.15	372	158	Mission: Military Photo Recon satellite, (14 day type),Xmsn: unknown

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Space Activity Report Explained

I have gotten several letters recently asking for an explanation of the numbers, etc in the Space Activity Report. This digest of launches is an exclusive feature of the Space Comm column. To the best of my knowledge no other radio club features this information. The report is designed to give you the latest information of new launches current through deadline time.

Alot of the data is courtesy of NASA with additonal information on noun names from NORAD. Mission information and frequency data comes from your editors files. The hardest data to put together is the mission of Russian Cosmos spacecraft. This information is not available in the public domain and requires analyst of spacecraft orbital parameters and on the air monitoring. The unknown frequency designation on objects occurs when data has not been determined for that mission or monitoring could not take place because of time constraints. Every effort is made to do some monitoring each month to remove the amount of unknowns listed in the Xmsn sections. Anyone with frequency info on these missions is invited to drop me a note with same, a credit will be noted.

Column one gives the international designation for each object of a launch. Normally the number should read 84-1A which means 84: year, 1: first launch of that year, and A the first object noted from that launch.

The International Committee on Space Research (known as COSPAR) gives each satellite and it's fragments these designations. Usually the letter A is given to the instrumented spacecraft, B is given to the rocket and C, D, E,... to the fragments. The letters I and o are omitted. If several spacecraft are sent into orbit in one launch, such as 84-1A thru 1H then the rocket receives a J designation. When there are more than 24 pieces as is the case when there has been an explosion, the sequence continues after Z with AA, AB, AC,...AZ and then BA, BB, BC,... BZ and so on. The greatest number of fragments recorded so far from one launch is 462, resulting from the explosion of the satellite 1965-82A (a USAF military mission).

In column two is the noun name as provided me thru officials at NORAD. Column 3 contains the launch date as determined by the 30 day NASA prediction bulletins from the Goddard Space Flight Center. column four is the orbital period of the spacecraft. This is the time it takes the satellite to make one complete revolution of the earth.

Column five contains the orbital inclination. Inclination is the angle between the orbital plane of a satellite and the equatorial plane of the earth. Column six and seven are related to the height of the satellite in orbit. Six is the apogee of the satellite or the high point above the earth, and seven is the the low point or perigee.

The rest of the data presented is mission of the satellite, Xmsn(transmission) frequencies and decay date if it has occured at deadline time.

The object of the report is to let the members see exactly what is going up, where it can be heard, and the types of satellites being launched. This should enable the monitorist to determine the type of setup they would need to

listen to any particular satellite. I hope this part of the column has been of use and any comments favorable or otherwise would be appreciated.

The Book is out

If I totally confused you with the above terms then the "Satellite Experimenters Handbook" from the ARRL just released in January is for you. I have known that this book written by Martin Davidoff, K2UBC was going to be good, but I didn't expect that it would be the best reference book on my shelf.

David has been working on this book for some time now and it represents the finest refernce book you can have in your library. Written for the beginner as well as the seasoned veteran the information is presented in a logical sequence that all can follow. All aspects of satellite monitoring is presented with chapters that give background into tracking, orbital mechanics, antennas, equipment, and satellite history. There are chapters for the advanced amateur hobbyist on weather, TV and other satellites of interest. Profiles of recent and current amateur satellites are given in the Appendix.

The book is well illustrated and well designed. I highly recommend this handbook to all interested in space comms no matter what your level of expertise. Copies are available from the ARRL/ AMSAT or your local amateur radio store. The price is right and will not be a down payment on the national debt.

Correspondance

Many thanks to Chuck, Ill-141, Frank Gosnell,AK-005, and Mark Johnson for their recent mail questions. By now you should have received return letters.

Regular reporter Richard Kramer dropped a note to say he heard the return of Navy flier Robert Goodman via the Atlantic Fleetsatcom on January 3, 84. He caught SAM 972 via a Grove scanverter CVR1A and a BC300. Rich was using an A/S tri-band 30 foot off the deck connected to a Radio Shack preamp(?). Which one Rich???--LVH. Rich said he was monitoring 261.625 Mhz and heard distorted traffic so he used the CVR-1A with his FRG-7 and heard on 27.6224 USB a phone patch from the aircraft. to ??? Rich also said he caught W5LFL on two different passes.

Rich did note that no UHF comms where monitored on 296.800 Mhz during the flight. (Ed note-- STS 41B is up while this is being typed and the EVA,1st, occured today. Several space comm enthusiast including myself have heard comms via 296.8 during the EVA.)

Terry,KA5IDD, also a regular in my mailbox dropped a note the other day to let me know he has been doing some milsat monitoring. Terry has noted the regular FLTSATCOM type traffic as well as some milsat activity in the 335-336 Mhz range and 399 Mhz. This area is rich in Navy NAVSAT activity and Chinese satellite telemetry---LVH.

Terry is using a Grove Scanverter and a Sony 5900 shortwave receiver a 10 inch ground plane at 25 feet and a beam up about 30 feet. I hope to see Terry join the RCMA fold real soon.

I would like to thank Reed Darsey(AL-022) for sending the Nov/Dec 1983 issue of NMEA News. This is a magazine from the National Marine Electronics Ass. Their was an interesting article on the"Architecture of an INMARISAT Ship Earth Station". The article noted the following: 1535.0 to 1543.5 Mhz as the receive ship frequency for the INMARISAT system. The channel spacing is 25 khz. A thousand thanks Reed for sending this interesting information.

GEOS reception: a simple approach

Have you ever watched the evening newcast and seen the real neat weather satellite pictures from 22,000 miles in space? Have you ever wanted to monitor those for yourself? Well now you can.

In the January 1984 issue of Ham Radio, John Franke, WA4WDL described an inexpensive receiving setup and display for the 1691 Mhz geostationary weather satellites. Those of you who are interested in this area of satellite monitoring check out page 46 of this magazine for further details on this very cheap way to get 24 hour a day weather pix.

So much for this month's Space Comm. Be sure to drop the column a note and let me know what you are hearing. Any and all mail is appreciated and I love to watch my old mailman go bananas as he stuffs the mailbox and gives me dirty stares. Send your questions, comments, etc. care of the address listed in the masthead.

Remeber this is your column so information,questions, and input is important and appreciated. Till next month, 73's and best of space listening. Larry-N5FPW.

Ginny Slick, RCMA Assistant Editor, 1 West Potomic, Williamsport, MD 21795

THE AURORA CELLULAR MOBILE TELEPHONE NETWORK

by Robert Berezowski

The Aurora (Automatic Roaming Radio) network is a cellular 400 MHz mobile telephone network now being implemented over the entire province of Alberta. The installation is now being done by Alberta Government Telephones. AGT and NovaTel, a subsidiary of Nova Corporation, did considerable research into the system design. This cellular system represents a state of the art mobile system, and the research and installation costs will total around $70 million. In what follows I will outline cellular systems in general, cellular system design, and details on the Aurora system itself. The information comes from a talk by Ken Lalonde, an engineer with AGT Mobile Communications.

Cellular Systems

The previous approach to mobile telephone systems has been for the maximum range possible. The VHF systems incorporate powerful transmitters with long range antennas. The problem with this approach is the relatively low capacity of the system. The approach with cellular radio systems is to restrict the coverage of each transmitter, and thereby increasing the capacity of the system.

The cellular system consists of a number of clusters of cells. Each cluster is a group of cells. Any number of cells can belong to a cluster, the number depending on the system design. Each cell is ideally shaped as a hexagon with one transmitter, and each cell in a cluster operates on a different frequency. These same frequencies are then repeated in the next cluster. The maximum use of the available spectrum is achieved, but the problem with this approach is co-channel interference, which can be reduced but not eliminated. Another drawback with using the UHF spectrum is the extreme variation in signal strength, fading, and multipath echoes.

The expected growth and market demand for cellular systems in general is expected to be enormous for the next few years. The use of cellular radio systems has been made possible with recent advances in computer technology and subsequent lower costs. In the United States alone the expected market will be about $1.1 billion.

Presently there is a 400 MHz system operating in Scandinavia, with an explosive demand for use. 30,000 mobiles have subscribed in a little over 18 months of system operation. In the 800 MHz region, several systems are in various stages of implementation. In the US, systems in about 90 cities with about 2 million mobiles are expected. A system under consideration in Japan has a capacity of 100,000 mobiles and 500,000 pagers. Here in Canada 23 cities have been targeted for cellular systems, with an expected number of mobiles around 140,000.

Cellular System Design

Several considerations must be made in the design of a cellular system. The goal is for the maximum utilization of the available resources for the demand of the customer. The resources include the available radio spectrum and the existing telephone system.

Some of the considerations for designing a system include the amount of coverage area, cell coverage area, number of cells, channel efficiency, customer demand, channel spacing, and the restrictions of the UHF spectrum. The greatest customer demand exists in metropolitan areas, but these areas also create problems with the radio coverage. The tall buildings and other urban features create a very harsh radio environment. The variations in RF signal strength can be as much as 50 dB over a short distance, which corresponds to a power variation on the order of 100,000.

AGT did considerable research in the design and development of the Aurora system. Much research was done for the RF design to determine cell size, channel spacing, and the possibilities of co-channel interference.

AGT designed and equipped a station wagon as a mobile field testing laboratory. A station wagon was chosen as the best representation of the average mobile. The lab contained a large amount of test equipment. A transmitter in the mobile allowed for remote control of the base transmitter. A test receiver capable of receiving up to 1 GHz was used. The received RF signal strength was fed to a strip recorder, and the output was also digitized and stored on a computer in the lab.

After all of this research, a computer designed a model of the system. The computer was fed all of the available data, including the locations of all existing and available AGT facilities. The model that the computer developed was then tested in the field with the mobile laboratory.

The Aurora System

As mentioned above, the Aurora system will cover the entire province, an area roughly 600 km by 1200 km. The system uses 121 cells operating in the 420/409 MHz range. The system is decentralized in that the mobile phone call is tied into the telephone exchanges at each cell. There are 7 cells per cluster, with 25 khz channel spacing.

Each cell has a Local Mobile Centre. This centre has rado transmitters with 4 available voice channels and 1 signalling channel. Each Local Mobile Centre has a Hewlett Packard 1000 Mini Computer that controls the radio transmitters and keeps track of the mobiles that are presently in its cell. The method by which this is done is outlined in the system operation.

There are also 6 Regional Mobile Centres. These centres are used to determine which cell a mobile is in to allow an incoming call to be routed to it. In the Regional Mobile Centre there is a back-up HP 1000 Mini-computer for every HP 1000 in the Local Mobile Centres.

In addition to these Regional Mobile Centres, there is one Master Mobile Centre in Edmonton. This centre keeps track of the location of all of the mobiles in the province. Two HP mainframes are installed here, with one being used for back-up. The proper billing for calls is also done here.

Landline data links are used to keep all of the centres in touch with one another. These data links are the standard data links already existing in the AGT system.

The Aurora system operates in the 409-410 and 420-421 MHz ranges. The base stations transmit in the 420 MHz range, while the mobiles transmit in the 409 MHz range. The system is full duplex, meaning that there is no need for a push to talk button. Varying amounts of fading and interference will be encountered by the user. The frequencies used start at 420.0125 and continue upward with 25 kHz spacing to 420.9875. With 25 kHz spacing, 40 channels are available, and all are used by the Aurora system. The input is exactly 11 MHz lower. For example, 420.0125/409.0125in, 420.0375/409.0375in, and so on to the last channel 420.9875/409.9875in. The mobile is a synthesized radio with access to all 40 channels.

Aurora System Operation

The state of the art technology employed in the mobile radio allows for the automatic roaming feature of the system. When not in use, the mobile is programmed to automatically determine which cell it is in. Each cell has a signalling channel which consists of a continuous stream of data. The mobile scans the signalling channel of the nearest cell, along with the signals from the adjacent cells. It compares the signal strengths, and along with other recent readings, determines the pattern of signal variations. Using this pattern, the mobile unit decides which signal is the best one to use. This signal is most often the cell that the mobile is in.

The mobile then signals the Local Center. Using data transmission it sends the unit identification and other information to the Local Mobile Centre. The computers record the arrival of the new unit, and also notify the Regional Mobile Centre of the location of this unit. The Regional Mobile Centre then notifies the Master Mobile Centre of the unit location. Should the mobile leave the cell, the mobile will change frequencies and check in with the new cell.

No operator assistance is required to place calls. This is an important element in increasing efficiency. The unit features a touch pad with an LED display. A picture of the handset supplied by AGT is

shown in Figure 2. The mobile user merely dials his desired phone number on the handset. The Local Mobile Centre receives this information and assigns one of the four voice channels. The assigned frequency is transmitted to the mobile radio. The mobile radio then automatically changes frequency. The call is routed through the Local Mobile Centre to the local telephone exchange and the long distance exchanges if necessary.

A call placed to an Aurora unit is also done automatically. A partial diagram of the Aurora system is shown in Figure 1. The land caller dials the number of the mobile. This number is a standard seven digit number with the prefix 551. The call goes through the local and long distance exchanges to the switcher. The switcher notifies the Regional Mobile Centre the number of the mobile desired.

The Regional Mobile Centre locates the mobile by recalling the last cell the mobile was reported to be in. The Regional Mobile Centre communicates with the Master Mobile Centre if necessary. When the mobile is located, the appropriate Local Control Centre is notified. The Regional Centre instructs the switcher to route the call to the appropriate local exchange.

The Local Mobile Centre signals the mobile and assigns a voice channel. The mobile automatically switches to this channel. The unit in the car rings, and the call proceeds as a normal telephone call.

In addition to the features listed above, several more have been incorporated into the system. One of these features is call queuing. If there are no voice channels available, the call is stored in a queue by the Local Mobile Centre. The mobile unit waits in line for the next available voice channel. When a channel becomes available, the unit is assigned to that channel.

Automatic number recall and redial as well as speed calling are included in the Aurora unit. Speed calling allows up to ten telephone numbers to be stored in the unit. A one digit code is all that is necessary to dial these numbers. Call forwarding allows calls placed to the Aurora unit to be forwarded to another number. A personal lock code in the Aurora unit prevents unauthorized use of the unit.

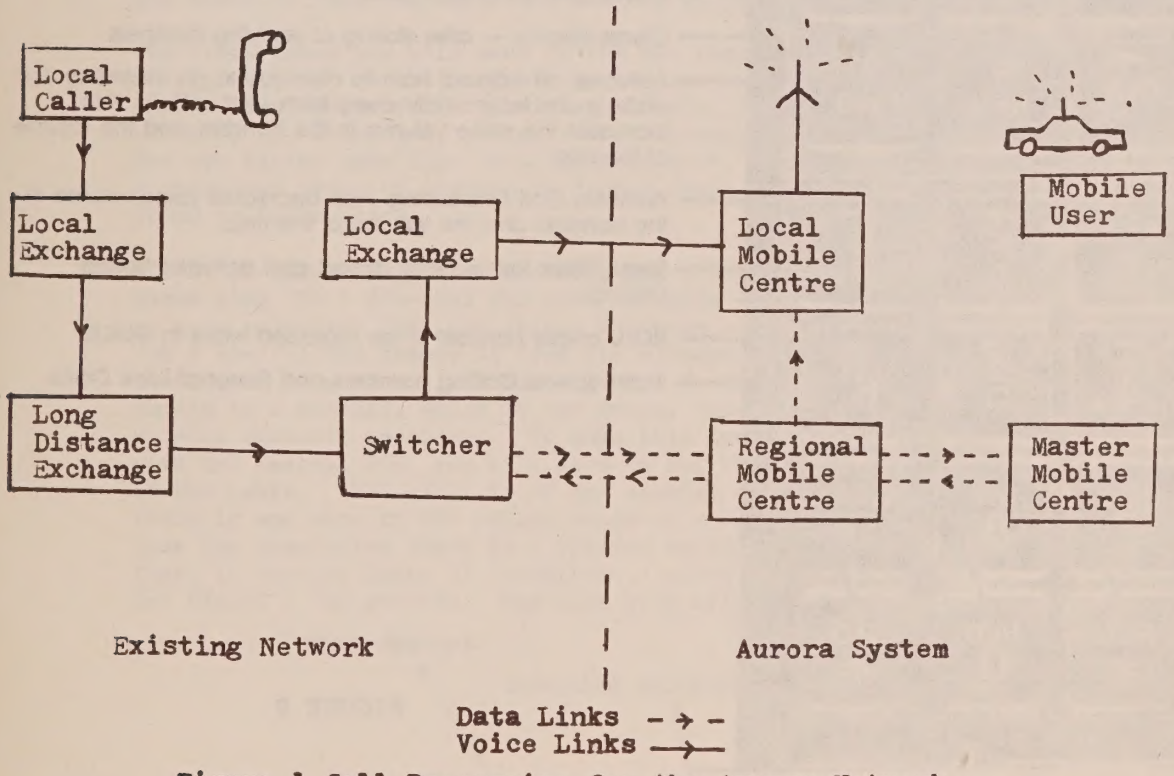


Figure 1 Call Processing for the Aurora Network

AGT expects to have the entire province under the coverage of Aurora by 1985. Edmonton is presently covered, with Calgary to be installed soon. Installation will then spread out to the rural areas.

The expected explosive demand for cellular systems in the near future will allow cellular systems to grow and spread just as fast. In this article I have described some cellular systems in general with

emphasis on the Aurora system. I hope that this has allowed you to better understand and appreciate cellular systems and the features of them. It is very possible that in the near future every vehicle will be equipped with a cellular mobile telephone.

References

With the exception of the frequencies of operation, all information was supplied by Mr. Ken Lalonde of AGT Mobile Communications during a presentation. This presentation was sponsored by the Institute of Electrical and Electronics Engineers (IEEE) and took place on Oct 20, 1983 at the University of Saskatchewan.

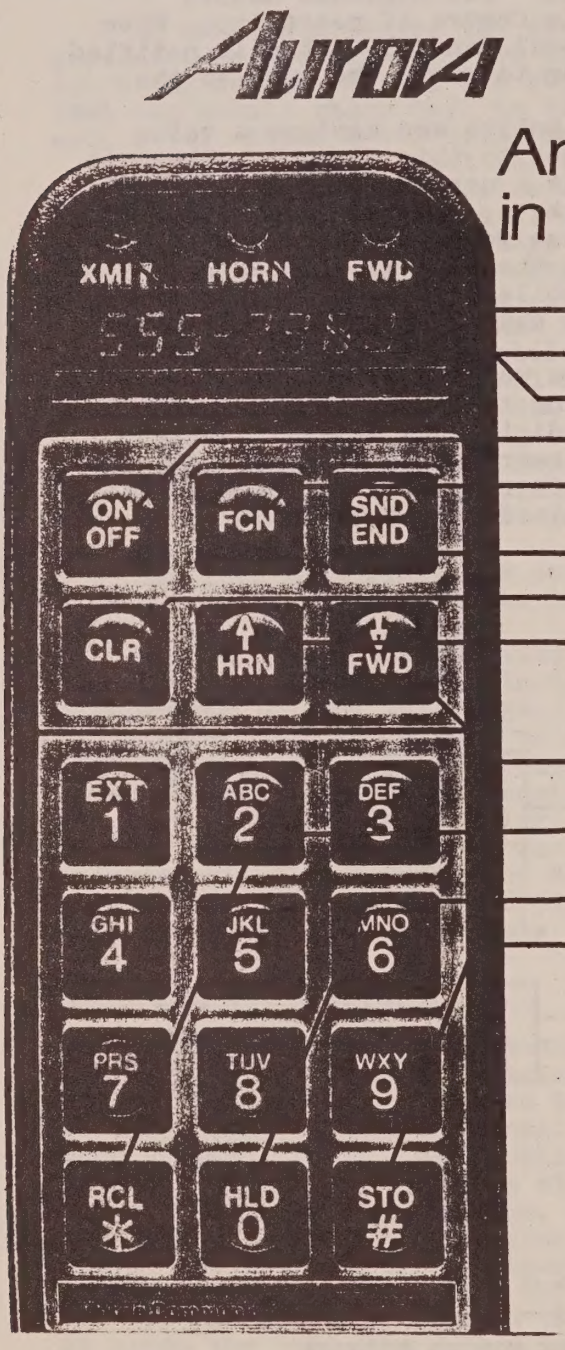
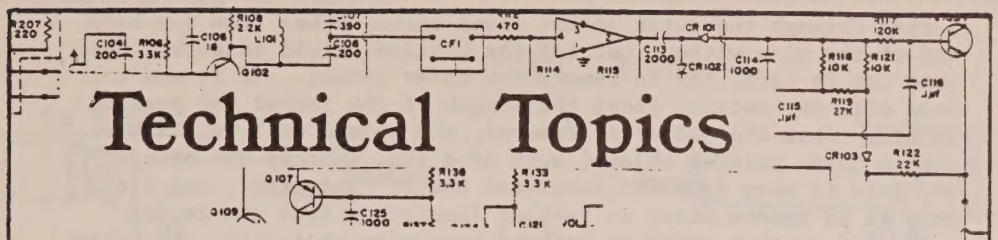

Aurora Features
An amazing array of features in the palm of your hand
XMIT
HORN
FWD
ON OFF
FCN
SND END
CLR
HRN
FWD
EXT 1
ABC 2
DEF 3
GHI 4
JKL 5
MNO 6
PRS 7
TUV 8
WXY 9
RCL *
HLD 0
STO #
Transmitting when "red".
Horn on when "green".
Call Forwarding when "yellow".
Turns AURORA on and off.
Locks and unlocks your AURORA phone to prevent unauthorized use.
Places and terminates calls.
Clears display — after storing or verifying numbers.
Activates an external horn to alert you to an incoming call while you're temporarily away from your vehicle. Also increases the voice volume in the handset and the volume of the ring.
Activates Call Forwarding. Also decreases voice volume in the handset and the volume of the ring.
Remembers last number dialed and activates Speed Calling.
HOLD allows handset to be replaced while in QUEUE.
Stores Speed Calling numbers and Personal Lock Code.

FIGURE 2



Technical Topics

Send all equipment reviews, technical articles, technical tips, and questions on such subjects as receivers, antennas, preamps, accessory equipment, repeaters, links, tones, scramblers, non-voice data transmissions, or even computer applications for monitoring to:

Stephen A. Kayworth, 21551 Kapok Circle, Boca Raton, FL 33433

THE 'CAT CONTINUED

Last month I started a series on the Bearcat 250, discussing the built-in channel spacing found in the various scanning ranges and out-of-band scanning. I would like to continue this month with a discussion about using the auxiliary function - a versatile feature which can be put to good use as an aid to recording off the air or as a means of alerting you to activity on a particular channel.

Page 15 of my owner's manual describes the use of the auxiliary function. As the manual states, this function can be either on or off for each individual channel. The function is selected by manually stepping to the desired channel and pressing "./Aux" then "E". A dot should appear in the lower-right of the display. Repeat the procedure to turn the auxiliary off.

The most common way this feature is used is with a tape recorder. Pages 17 and 18 of the owner's manual give the details of how this is done. I would like to take it one step further and tell you where to find the materials and how to prepare the cables.

The first cable you will need is the one that goes from the auxiliary terminal on the back of the scanner to the recorder's remote jack. This cable uses a submini phone plug on one end and bare wires on the other end, suitable for fastening under screw terminals. You can either make this cable from scratch, if you are handy with a soldering iron, or prepare it from a ready made item which I found at Radio Shack.

If you're going to go from scratch, you will need a submini phone plug (RS # 274-289) and some suitable wire. If you're not up to a soldering job, try this. Purchase a "remote pause control" (RS # 44-777) and remove it from its package. You will see that there is a plug on one end and a switch on the other. The plug should be a submini, which is the proper size for the remote jack on most cassette recorders. To make this item suitable for use with the Bearcat 250, you will have to cut the switch off the end of the cable. This cable is of the coaxial type, meaning that there is one wire in the center which is surrounded by insulation. Over the insulation there is a braided shield, and over the shield there is another layer of insulation, called the outer jacket. See figure 1 for details. The next step will be to carefully cut

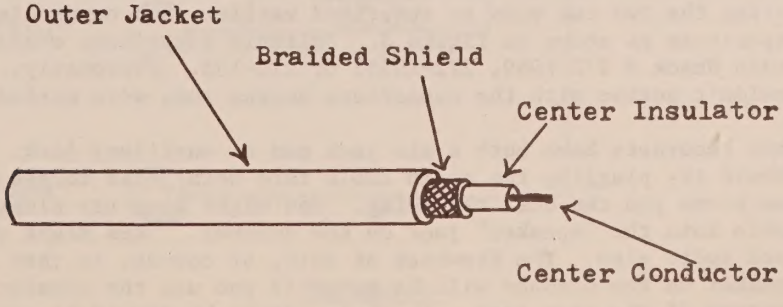


Figure 1

a ring through the outer jacket about three inches from the bare end of the wire without cutting the braided shield beneath. Once this cut is made, try to remove the outer jacket. If it won't come off, try cutting along the length of the jacket and peeling it off. Once the jacket is removed, the shield will be visible. With a thin, pointed object, such as a pin, unbraid the shield and fold it away from the insulated center conductor. The final step is to remove about an inch of insulation from the center conductor so that about an inch of bare wire protrudes. The wire should now look like figure 2.

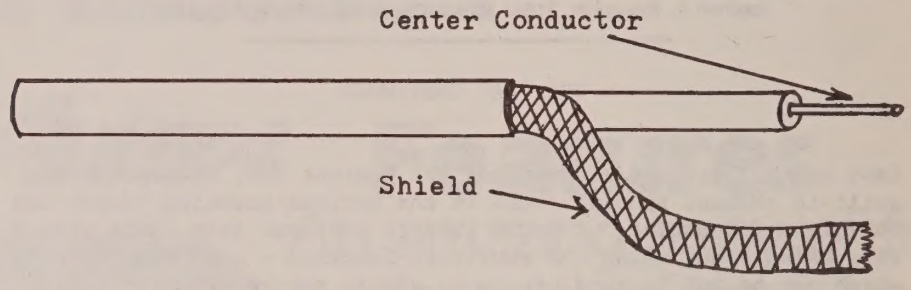


Figure 2

To connect this cable to the scanner, first turn the scanner off then unplug it from the wall socket. Now, fasten the bare center conductor under the screw terminal marked "Aux" and fasten the shield under the screw terminal marked "Gnd" (ground). Plug the other end of the wire into the jack on the recorder marked "remote." Plug the scanner back in and turn it on. Select a channel and turn on the auxiliary function per the instruction. Insert a tape in the recorder and press the play button. Observe the tape. With no signal being received by the scanner (no open squelch either), the tape should not be moving (if it is, reverse the wires on the back of the scanner). Now, rotate the squelch knob until you hear noise. If all is well, you should see the tape start to move. Using the squelch knob, quiet the noise again. The tape should stop. If it does, then congratulations are in order. The recorder should now start and stop along with the signals you hear.

The next thing that has to be done is to connect the audio output from the scanner to the audio input of the recorder. The owner's manual shows a cable going from the tape jack on the scanner to the mic jack on the recorder. In addition, they show that the cable has been modified by adding a .1 microfarad capacitor in series with both the shield and the center conductor of this cable. The purpose of this is to "isolate the recorder ground from the scanner...(p. 18, owner's manual)." Figure 3 shows a detail of this. I tried this modified cable with my recorder, and I couldn't tell that it had any advantage over using a straight cable. For the cable, I would suggest using Radio Shack # 42-2420. This cable is 72 inches long and has a mini phone jack on either end. Adding the capacitors would require cutting the cable in the center, preparing the two cut ends as described earlier, and connecting the capacitors as shown in figure 3. Suitable capacitors would be: Radio Shack # 272-1069, 272-1053, or 272-135. Personally, I wouldn't bother with the capacitors unless they were needed.

Some recorders have both a mic jack and an auxiliary jack. You should try plugging the audio cable into both jacks to see which one gives you the best recording. You might also try plugging the cable into the "speaker" jack on the scanner. This might yield good audio also. The drawback of this, of course, is that the speaker on the scanner will be muted if you use the speaker jack instead of the tape jack. In short, don't be afraid to experiment. Just use common sense.

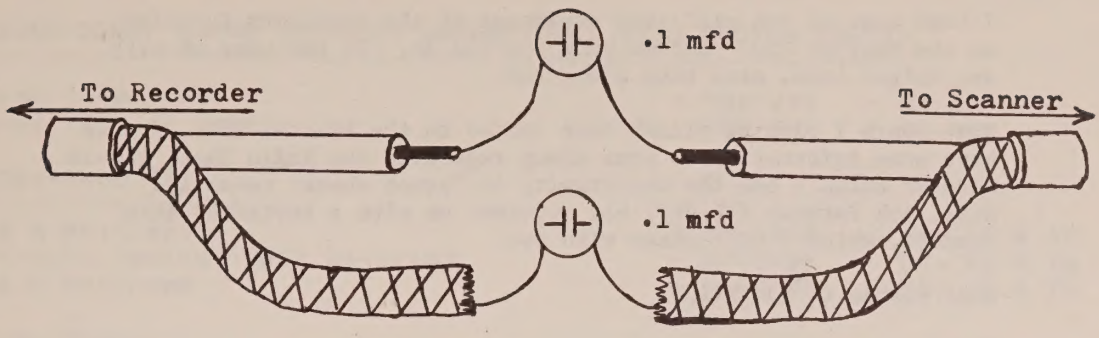


Figure 3

There is a much simpler way to still make use of the auxiliary function without going to all the trouble of hooking up an audio cable. If your recorder has a built-in mic, you can still hook up the remote cable and let the scanner turn the recorder on and off, but instead of using an audio cable between the scanner and the recorder, you can just set the recorder next to the scanner's speaker and let the recorder's built-in mic do the rest. Alternately, you could use an external microphone in place of a built-in one. In some cases, it might be possible to get a better recording with a microphone than with a directly connected audio cable.

The auxiliary function, as we have been discussing, is most often used to turn a recorder on and off, but it can be used for other things as well. For example, suppose you had a particular frequency in your area that was used very little, and you wanted to be alerted whenever the channel was active. You could attach some sort of alerting device to the auxiliary terminals on the rear of the scanner, and whenever that channel was busy, the scanner would automatically let you know.

If you want to hook something up to the auxiliary terminal, other than a recorder, just remember that this terminal goes to ground whenever the auxiliary function is active and it can only handle up to 500 milliamps or half an amp. I suggest using a relay, such as Radio Shack # 275-206, hooked up as shown in figure 4, if you plan on using the auxiliary function to activate lights or other devices which might draw more than the half amp limit. You can then use the relay contacts to do the job.

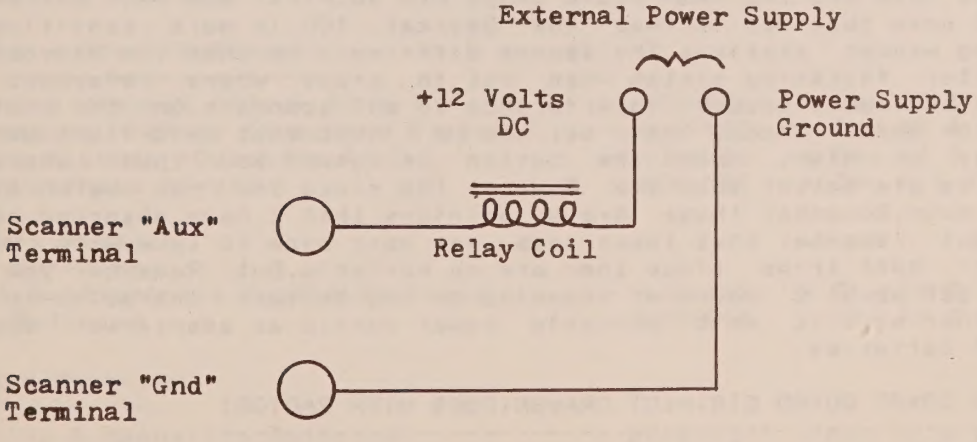


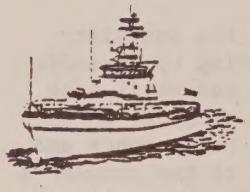
Figure 4

I hope some of you will take advantage of the auxiliary function on the Bearcat 250. Let me know how you do. If you come up with any unique uses, pass them along too.

Next month I plan to finish this series on the Bearcat 250. I also have some information to pass along regarding the Radio Shack PRO-30 scanner which I had the opportunity to "bench check" recently. Also, Bob Parnass (IL-267) has provided me with a review of this scanner, which I will share with you.

Best wishes to you all,

Steve



VHF Marine

Send information, articles, frequencies and their use, and questions that relate to private, commercial, and Coast Guard VHF maritime and inland waterways radio communications to:

Emmett L. Baxter, Jr., 424 W. 22nd St., Norfolk, VA 23517

Hello and welcome to your April VHF Marine Monitoring Column.The mail box is still very empty.By the time you read this column Spring should just be moving in and the boating activities should be increasing.

Our first report comes from Chris (Can.-061).Chris sent us a news release from the Ministry of the Environment-Ontario,Canada.

A new 45 foot survey vessel has been launched to join Ontario's Environment Survey Fleet.The name of the vessel is the "James Auld". Its main job will be to keep an eye on Water Quality Conditions.It is the newest addition to ontario's Enviromental Survey fleet of five vessels. The vessels are "Guardian No.1","Monarch","Monitor IV","Monitor V" and the "James Auld"

Our next report comes from Ed (Md.-082). A very interesting note about interference on 156.800.In some of the larger cities interference shows up on 156.800.The reason is unknown,but it happens.In Ed's case his Regency M100 has a "Birdie" on 156.800.He has solved the problem by using an image of 172.800.But when entering,use the decimal point first.

One other note or observation concerning hand held portable scanners.I would like to point out some differences between the Bearcat 100 and the New Radio Shack Pro 30.First the main difference that I have observed is that the Bearcat 100 is more sensitive in copying weaker stations.The second difference is that the Bearcat has a better filtering system when put in areas where telephone and paging equipment causes interference to all scanners.On the positive side for Radio Shack; their set has a light that will light up the display at night when the button is pushed and their searching features are better than the Bearcat 100 since you can search either up or down.Remember these are my opinions that I have observed on my sets.But remember that these sets are very nice to take with you on car or boat trips since they are so portable.But Remember you will only get about 8 hours of scanning on one battery charge;so it pays to either us a 12 volt portable power cord,a ac adapter,or another set of batteries.

SECOND COAST GUARD DISTRICT DRAWBRIDGES WITH RADIOS:

Arkansas River:

Rob Roy	- KTA-435	- Ch.16
Chicago,Rock Island & Pacific Railroad	- KQU-630	- Ch.16

SECOND COAST GUARD DISTRICT DRAWBRIDGES WITH RADIOS CON'T:

Mopac (Junction)	- KSK-392	- Ch.16
Mopac (Baring Cross)	- KSK-392	- Ch.16
Cumberland River:		
L & N Railroad	- KS-2204	- Ch. 13 & 16
Illinois Central Gulf Railroad	- KT-5499	- Ch. 13 & 16
L & N Railroad	- KQ-7197	- Ch. 13 & 16
Green River:		
L & N Railroad	- KT-4181	- Ch. 13 & 16
Illinois River:		
Hardin Highway	- WZQ-8761	- Ch. 14 & 16
Illinois Central Gulf Railroad	- KLU-797	- Ch. 14 & 16
Florence Highway	- WZQ-8761	- Ch. 14 & 16
Norfolk & Western Railroad	- KTR-857	- Ch. 14 & 16
Beardstown Railroad	- KLU-801	- Ch. 14 & 16
Chicago & Northwestern Railroad	- KVF-831	- Ch. 14 & 16
Pekin Highway	- WZQ-8761	- Ch.6,14,16, 19,26
Peoria & Pekin Union Railroad	- KTD-456	- Ch. 14 & 16
Franklin Street	- WZQ-8761	- Ch.6,12,13, 16
LaSalle Highway	- WZQ-8761	- Ch.6,10,12, 13,14,16
Brandon Road	- WZQ-8761	- Ch. 13 & 16
McDonough Highway	- WZQ-8761	- Ch. 13 & 16
Chicago,Rock Island & Pacific Railroad	- KUF-907	- Ch. 14 & 16
Ruby Street	- WZQ-8761	- Ch. 13 & 16
Missouri River:		
Harry S. Truman	- KVY-575	- Ch. 13 & 16
A-S-B Highway & Railroad	- KQU-500	- Ch. 14 & 16
Hannibal Railroad	- KQU-500	- Ch. 14 & 16
Chicago & Northwestern Railroad	- KTA-436	- Ch. 14 & 16
Atchison Railroad	- KTD-426	- Ch. 14 & 16
Union Pacific	- KTD-403	- Ch. 14 & 16
Illinois Central Gulf Railroad	- KD-2870	- Ch. 13 & 16
Ohio River:		
27th. Street,McAlpine Lock (Swing)	- WUE-241	- Ch. 14 & 16
27th. Street,McAlpine Lock (Bascule)	- WUE-241	- Ch. 14 & 16
Penn Central Railroad	- KUZ-381	- Ch. 13
Ouachita - Black Waterway:		
Jonesville Highway (Black River)	- KJA-538	- Ch. 13 & 16
Harrisonburg Highway (Ouachita River)	- KJA-575	- Ch. 13 & 16
Columbia Highway (Ouachita River)	- KJA-566	- Ch. 13 & 16
Mopac (Ouachita River)	- KCA-334	- Ch. 6 & 16
St. Croix River:		
Chicago,Burlington & Quincy Railroad	- KJC-782	- Ch. 14 & 16
Hudson Railroad	- KUZ-549	- Ch. 14 & 16
Tennessee River:		
Louisville & Nashville Railroad	- KC-9465	- Ch. 13 & 16
Wilson Lock Access	- WUE-612	- Ch. 16
Southern Railroad	- KQ-8999	- Ch. 13
Keller Highway Bridge	- KYH-502	- Ch. 13 & 16
Louisville & Nashville Railroad	- KC-9430	- Ch. 13 & 16

VHF Marine continued

SECOND COAST GUARD DISTRICT DRAWBRIDGES WITH RADIOS CON'T:

Upper Mississippi River:

Alton Railroad	- KXS-240	- Ch. 13 & 16
Louiaiana Railroad	- KLU-798	- Ch. 14 & 16
Hannibal Railroad	- KUZ-448	- Ch. 14 & 16
Keokuk Railroad & Highway	- KLG-365	- Ch. 14 & 16
Fort Madison Railroad & Highway	- KRS-859	- Ch. 13
Burlington Railroad	- KJC-779	- Ch.7,13,14, 16
Rock Island Railroad & Highway	- AAE-274	- Ch. 6,14,16
Clinton Railroad	- KUF-735	- Ch. 13 & 16
Chicago,Milwaukee,St.Paul & Pacific RR	- KEA-997	- Ch. 13 & 16
Illinois Central Gulf Railroad	- KQ-9042	- Ch. 14 & 16
LaCrosse Railroad	- KVY-631	- Ch. 13 & 16
Burlington Northern Railroad	- KLU-802	- Ch. 13 & 16
Hastings Railroad	- KTD-538	- Ch. 14 & 16
Beltline Railroad	- KUZ-544	- Ch. 14 & 16
Chicago & Northwestern Railroad	- KUZ-544	- Ch. 14 & 16
Omaha Railroad	- KUZ-545	- Ch. 14 & 16

White River:

St.Louis & Southwestern Railroad	- KUF-653	- Ch. 14 & 16
Missouri Pacific Railroad	- KIF-553	- Ch. 13 & 16

Well that's all for this month.Lets fill the mailbox with your information on your listening area.Don't let your Club down - Support it Today.

73's till next month.

N E W M E M B E R S L I S T

R. C. M. A. NEW MEMBERS LIST
2 11 1984

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CALA568 STEINBERG, HOWARD * ADDRESS WITHHELD BY REQUEST
CAME019 GRIFFIN, JOHN JR;19 DUTTON CT;MARIN CITY, CA 94965
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CASC044 ROGOWAY,RAYMOND A;1134 SOMERSET DR;SAN JOSE, CA 95132
CASD064 BAILLIE, KEITH A;P.O. BOX 1384;VISTA, CA 92083
CASF033 CROOKS, GARY;BOX 831;APO SAN FRANCISCO, CA 96555
CAVE027 REINER, HAROLD L;561 HOLLYBURNE LANE;THOUSAND OAKS, CA 91360
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CT 083 DOERSCHLER, GREG;19 REED DR;WETHSERSFIELD, CT 06109
DE 016 FIFIELD, CHARLES C;634 S CONNELL ST;WILMINGTON, DE 19805
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FL 186 WARMOTH, LARRY G;641 WEST 50 PLACE 64;HIALEAH, FL 33012
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IL 274 O'ROURKE, KEVIN;862 FAIRFIELD AVE;ELMHURST, IL 60126
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IL 277 HAFFNER, BRUCE;233 E. 141ST PLACE;DOLTON, IL 60419
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MN 043 GUNN, JOHN;10909 EWING AVE S;BLOOMINGTON, MN 55431
NJ 184 MCGOVERN, THOMAS W;708 BUNKERHILL AVE;LAWRENCEVILLE, NJ 08648
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NJ 186 DOS SANTOS, BENEDITO;810 JACKSON AVE;ELIZABETH, NJ 07201
NJ 187 MATTSON, LES;212 WEST BROAD ST;PAULSBORO, NJ 08066
NJ 188 NICZYPOR, RICHARD;303 STATION DR;FORKED RIVER, NJ 08731
NM 016 HALL, HARRY L;2307 W HWY 66;GRANTS, NM 87020
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PA 199 SMITH, LOUIS A II;RD 6 BOX 479;LATROBE, PA 15650
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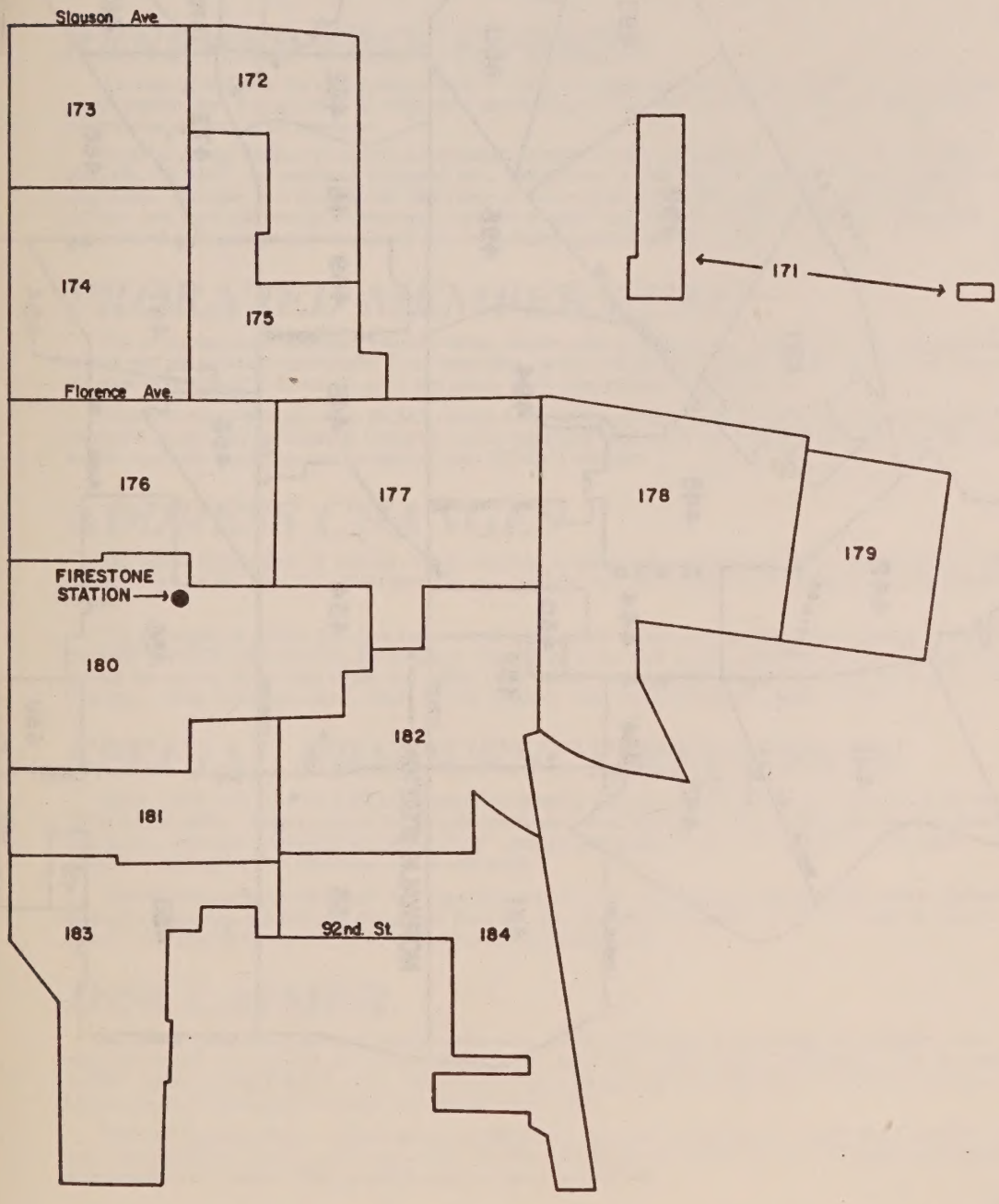
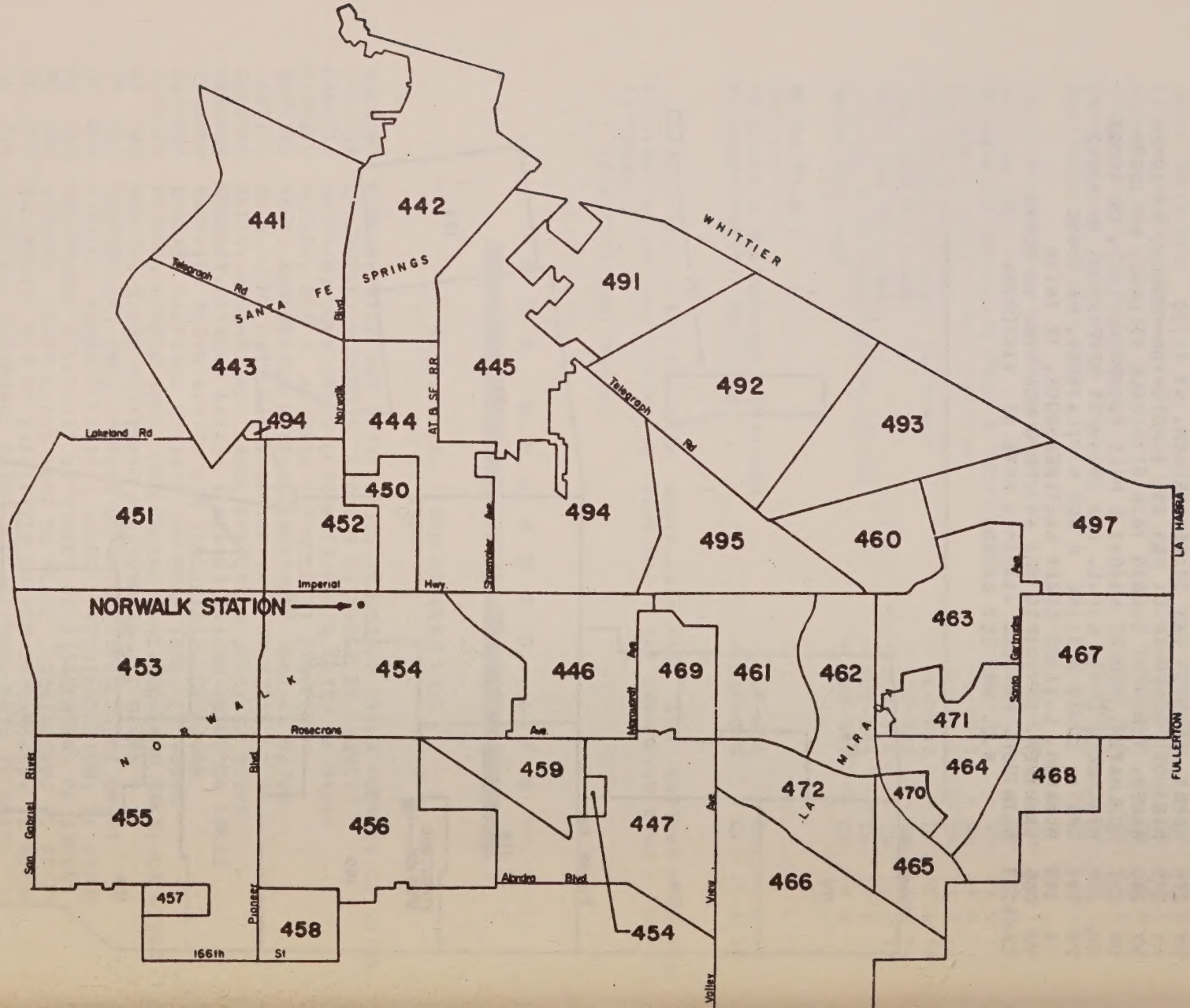


FIRESTONE AREA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Imperial Hwy.
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LA HABRA
NORWALK STATION
NORWALK
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Valley View Ave.

MEMBERSHIP CARDS AND BADGES

RCMA has no badges, decals, or membership cards for sale or distribution. The label on your newsletter is your membership card. While other clubs may have gimmicks or commercial good deals, our 'good deal' is your newsletter. You determine its content because you write it.

MAILING PROCEDURES

The newsletter mailed each month has a cover date for the following month. This practice is followed so that the US Post Office can deliver your issue no later than the first of the month designated on the cover.

New members whose applications are received before the end of the month will begin receiving the newsletter the following month. The first issue will be dated the month after that — as described above.

RENEWAL PROCEDURES

The date printed after the membership number on your newsletter mailing label shows the last month of your current membership. It is important to renew your membership by that date, as promptness on your part ensures uninterrupted delivery of the newsletter.

Renewal checks and new membership applications received by RCMA's General Manager, P.O. Box 542, Silverado, CA 92676, are processed for deposit on a weekly basis. Actual computer updating is done at the end of each month. Therefore, it is possible that your check or money order can be received — and even deposited — and your next issue will contain the statement "renewal overdue" on the mailing label. This simply means that your renewal was received after the cut-off date for runnning updated mailing labels.

PRORATED MEMBERSHIPS

Due to postage costs and other considerations, membership applications or renewals for any sum less than the current rate are prorated accordingly. This means that the renewal date will be due in less than a year. Please do not send more money to finish the year; just renew when your prorated date comes up.

Also because of postage costs, RCMA cannot comply with member requests to supply back issues free of additional charge (see the monthly Calendar section regarding ordering of back issues). If a late renewal results in a missed issue, the newsletter can be ordered from RCMA's secretary.

ADDRESS CHANGES

MEMBER notifications of address changes are also updated at the end of each month. If this type of address change notice arrives after the cut-off date, the mailing label will not reflect the new address until the following month.

The newsletter is mailed 3rd class under a bulk mail permit. When a member's address change is supplied by the POST OFFICE (instead of by the member), the charge to the club is 25¢. Although this fee is supposed to include forwarding of an issue to the new address, the result is often simply a return of the issue to P.O. 4563. The message is clear: when you move, notify RCMA yourself. Don't wait for the Post Office to do it.

SPECIAL FREQUENCY REQUESTS

Get in touch with your local RCMA group (see monthly Calendar section for chapter listings) or use the Contact/Information Wanted column for frequencies in your area. RCMA is not yet set up for national distribution of frequencies, although ultimately, the 'big picture' could include copies of the FCC and IRAC data bases, a fast computer, and software to select and sort in any order.

Contributions of frequencies and other material must be sent to the appropriate newsletter editor. (Editors use their own discretion in printing material sent them by non-members.) Data sent to P.O. Box 4563 is always subject to delay and sometimes cannot be forwarded because of postage costs.

DISCLAIMER

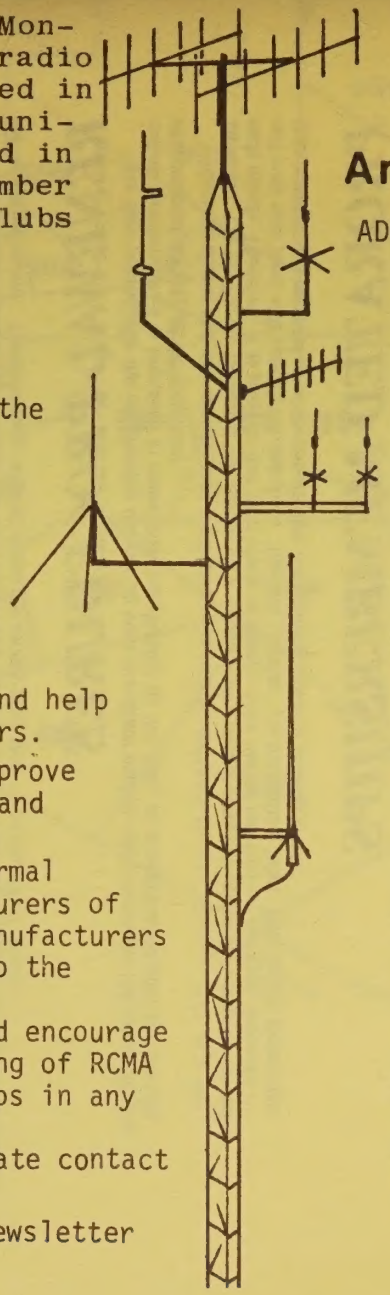
RCMA is a non-profit club for scanner enthusiasts. Neither RCMA or its newsletter are affiliated with, participate in the management of, or are responsible for, any other organization or publication. This disclaimer includes application to POLICE CALL, an annual publication put out by RCMA's good friend Gene Hughes. Queries about this publication cannot be answered by RCMA.

PLEASE REMEMBER — When writing to RCMA for any reason, include your membership number. Use it on your correspondence, checks, or money orders. RCMA tries hard to be responsive to your questions/problems. Using your membership number when you write helps us be of help to you.

The Radio Communications Monitoring Association is a radio club for persons interested in listening to two-way communications. RCMA was founded in May 1975 and is a Full Member of North American Radio Clubs (ANARC).

The goals of RCMA are:

1) To provide a fraternity for those who seriously pursue the hobby of monitor radio listening.
2) To try to be knowledgeable about two-way radio systems and operations.
3) To promote an understanding of the legal and ethical uses of monitor receivers.
4) To share information with and help other monitor radio listeners.
5) To try to understand and improve receivers, antenna systems and related equipment.
6) To offer suggestions and formal recommendations to manufacturers of monitor receivers and to manufacturers of other products related to the hobby.
7) To offer suggestions for and encourage the organizing and conducting of RCMA meetings and tours for groups in any geographic area.
8) To encourage and to facilitate contact between members.
9) To publish a regular club newsletter devoted to the hobby.



RCMA
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